

SEQUENCE LISTING

<110> Rao, Anjana
 Hogan, Patrick G.
 Heissmeyer, Vigo

<120> Modulation of Anergy and Methods for
 Isolating Anergy-Modulating Compounds

<130> 10861-033US1

<140> US 10/575,932

<141> 2006-04-14

<150> PCT/US04/09647

<151> 2004-03-29

<150> US 60/512,235

<151> 2003-10-17

<160> 31

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 862

<212> PRT

<213> Homo sapiens

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Phe	Arg	Val	Trp	Ser	His	Gln	Thr	Leu	Lys	Ser	Asp	Val	Leu	Leu	Gly
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Thr	Asn	Gly	Ser	Asp	Asp	Pro	Glu	Asp	Ala	Gly	Ala	Gly	Glu	Asn	Arg
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Pro	Gly	Trp	Glu	Arg	Arg	Val	Asp	Asn	Met	Gly	Arg	Ile	Tyr	Tyr	Val		
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Asn	His	Asn	Thr	Arg	Ile	Thr	Gln	Trp	Glu	Asp	Pro	Arg	Ser	Gln	Gly		
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Gln	Leu	Asn	Glu	Lys	Pro	Leu	Pro	Glu	Gly	Trp	Glu	Met	Arg	Phe	Thr		
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Tyr	Ile	Asp	Pro	Arg	Thr	Gly	Lys	Ser	Ala	Leu	Asp	Asn	Gly	Pro	Gln		
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Glu Cys Asp Leu Glu Met Tyr Phe Ser Val Asp Lys Glu Ile Leu Gly
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 Glu Ile Lys Ser His Asp Leu Lys Pro Asn Gly Gly Asn Ile Leu Val
 675 680 685
 Thr Glu Glu Asn Lys Glu Glu Tyr Ile Arg Met Val Ala Glu Trp Arg
 690 695 700
 Leu Ser Arg Gly Val Glu Glu Gln Thr Gln Ala Phe Phe Glu Gly Phe
 705 710 715 720
 Asn Glu Ile Leu Pro Gln Gln Tyr Leu Gln Tyr Phe Asp Ala Lys Glu
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 Gln Arg His Ala Ile Tyr Arg His Tyr Ala Arg Thr Ser Lys Gln Ile
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 785 790 795 800
 Phe Ala Asp Leu Met Gly Ser Asn Gly Pro Gln Lys Phe Cys Ile Glu
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 Lys Val Gly Lys Glu Asn Trp Leu Pro Arg Ser His Thr Cys Phe Asn
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<212> PRT

<213> Mus musculus

<400> 2

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 35 40 45
 Asn Thr Asn Ser Pro Lys Trp Lys Gln Pro Leu Thr Val Ile Val Thr
 50 55 60
 Pro Thr Ser Lys Leu Cys Phe Arg Val Trp Ser His Gln Thr Leu Lys
 65 70 75 80
 Ser Asp Val Leu Leu Gly Thr Ala Gly Leu Asp Ile Tyr Glu Thr Leu
 85 90 95
 Lys Ser Asn Asn Met Lys Leu Glu Glu Val Val Met Thr Leu Gln Leu
 100 105 110
 Val Gly Asp Lys Glu Pro Thr Glu Thr Met Gly Asp Leu Ser Val Cys
 115 120 125
 Leu Asp Gly Leu Gln Val Glu Ala Glu Val Val Thr Asn Gly Glu Thr
 130 135 140
 Ser Cys Ser Glu Ser Thr Thr Gln Asn Asp Asp Gly Cys Arg Thr Arg
 145 150 155 160
 Asp Asp Thr Arg Val Ser Thr Asn Gly Ser Glu Asp Pro Glu Val Ala
 165 170 175
 Ala Ser Gly Glu Asn Lys Arg Ala Asn Gly Asn Asn Ser Pro Ser Leu
 180 185 190

Ser	Asn	Gly	Gly	Phe	Lys	Pro	Ser	Arg	Pro	Pro	Arg	Pro	Ser	Arg	Pro			
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Thr	Asn	Ser	Asp	Ser	Asp	Gly	Ser	Ser	Thr	Gly	Ser	Leu	Pro	Pro	Thr			
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Ile	Ile	Pro	Leu	Thr	Ile	Ser	Gly	Gly	Ser	Gly	Pro	Arg	Pro	Leu	Asn			
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Thr	Val	Ser	Gln	Ala	Pro	Leu	Pro	Pro	Gly	Trp	Glu	Gln	Arg	Val	Asp			
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Leu	Gln	Arg	Ser	Gln	Leu	Gln	Gly	Ala	Met	Gln	Gln	Phe	Asn	Gln	Arg			
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Phe	Ile	Tyr	Gly	Asn	Gln	Asp	Leu	Phe	Ala	Thr	Ser	Gln	Asn	Lys	Glu			
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Gln	His	Ile	Lys	Ile	Thr	Val	Thr	Arg	Lys	Thr	Leu	Phe	Glu	Asp	Ser			
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Phe	Gln	Gln	Ile	Met	Ser	Phe	Ser	Pro	Gln	Asp	Leu	Arg	Arg	Arg	Leu			
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Trp	Val	Ile	Phe	Pro	Gly	Glu	Gly	Leu	Asp	Tyr	Gly	Gly	Val	Ala				
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Leu	Lys	Asp	Leu	Glu	Ser	Ile	Asp	Pro	Glu	Phe	Tyr	Asn	Ser	Leu	Ile			
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<211> 900

<212> PRT

<213> Homo sapiens

<400> 3

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			20					25					30		
Lys	Lys	Asp	Ile	Leu	Gly	Ala	Ser	Asp	Pro	Tyr	Val	Arg	Val	Thr	Leu
		35					40					45			
Tyr	Asp	Pro	Met	Asn	Gly	Val	Leu	Thr	Ser	Val	Gln	Thr	Lys	Thr	Ile
	50					55					60				
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His	Pro	Gln	Gln	His	Arg	Leu	Leu	Phe	Glu	Val	Phe	Asp	Glu	Asn	Arg
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Leu	Thr	Arg	Asp	Asp	Phe	Leu	Gly	Gln	Val	Asp	Val	Pro	Leu	Tyr	Pro
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Asn	Ala	Glu	Gln	Ala	Glu	Glu	Leu	Glu	Pro	Gly	Trp	Val	Val	Leu	Asp
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Gln	Pro	Asp	Ala	Ala	Cys	His	Leu	Gln	Gln	Gln	Gln	Glu	Pro	Ser	Pro

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Tyr	Val	Asn	His	Glu	Ser	Arg	Arg	Thr	Gln	Trp	Lys	Arg	Pro	Thr	Pro
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Gln	Arg	Ala	Phe	Thr	Thr	Arg	Arg	Gln	Ile	Ser	Glu	Glu	Thr	Glu	Ser
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		260					265					270			
Glu	Ala	Thr	Met	Tyr	Ser	Asn	Gln	Ala	Phe	Pro	Ser	Pro	Pro	Pro	Ser
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Leu	Thr	Ile	Phe	Gly	Asn	Ser	Ala	Val	Ser	Gln	Pro	Ala	Ser	Ser	Ser
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Lys	Arg	Thr	Gln	Trp	Glu	Asp	Pro	Arg	Leu	Glu	Asn	Val	Ala	Ile	Thr
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Gly	Pro	Ala	Val	Pro	Tyr	Ser	Arg	Asp	Tyr	Lys	Arg	Lys	Tyr	Glu	Phe
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Phe	Arg	Arg	Lys	Leu	Lys	Lys	Gln	Asn	Asp	Ile	Pro	Asn	Lys	Phe	Glu
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Val Ala Gly Met Ala Val Tyr His Gly Lys Leu Leu Asp Gly Phe Phe
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 Ile Arg Pro Phe Tyr Lys Met Met Leu His Lys Pro Ile Thr Leu His
 660 665 670
 Asp Met Glu Ser Val Asp Ser Glu Tyr Tyr Asn Ser Leu Arg Trp Ile
 675 680 685
 Leu Glu Asn Asp Pro Thr Glu Leu Asp Leu Arg Phe Ile Ile Asp Glu
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 Glu Leu Phe Gly Gln Thr His Gln His Glu Leu Lys Asn Gly Gly Ser
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 Glu Ile Val Val Thr Asn Lys Asn Lys Lys Glu Tyr Ile Tyr Leu Val
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 740 745 750
 Lys Glu Gly Phe Phe Glu Leu Ile Pro Gln Asp Leu Ile Lys Ile Phe
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 Asp Glu Asn Glu Leu Glu Leu Leu Met Cys Gly Leu Gly Asp Val Asp
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 Val Asn Asp Trp Arg Glu His Thr Lys Tyr Lys Asn Gly Tyr Ser Ala
 785 790 795 800
 Asn His Gln Val Ile Gln Trp Phe Trp Lys Ala Val Leu Met Met Asp
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 Ser Glu Lys Arg Ile Arg Leu Leu Gln Phe Val Thr Gly Thr Ser Arg
 820 825 830
 Val Pro Met Asn Gly Phe Ala Glu Leu Tyr Gly Ser Asn Gly Pro Gln
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 Ser Phe Thr Val Glu Gln Trp Gly Thr Pro Glu Lys Leu Pro Arg Ala
 850 855 860
 His Thr Cys Phe Asn Arg Leu Asp Leu Pro Pro Tyr Glu Ser Phe Glu
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<212> PRT

<213> Mus musculus

<400> 4

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 Arg His Arg Ile Leu Phe Glu Val Phe Asp Glu Asn Arg Leu Thr Arg
 35 40 45
 Asp Asp Phe Leu Gly Gln Val Asp Val Pro Leu Tyr Pro Leu Pro Thr
 50 55 60
 Glu Asn Pro Arg Met Glu Arg Pro Tyr Thr Phe Lys Asp Phe Val Leu
 65 70 75 80
 His Pro Arg Ser His Lys Ser Arg Val Lys Gly Tyr Leu Arg Leu Lys
 85 90 95
 Met Thr Tyr Leu Pro Lys Asn Gly Ser Glu Asp Glu Asn Ala Asp Gln
 100 105 110
 Ala Glu Glu Leu Glu Pro Gly Trp Val Val Leu Asp Gln Pro Asp Ala
 115 120 125

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Glu	Ser	Arg	Arg	Thr	Gln	Trp	Lys	Arg	Pro	Ser	Pro	Asp	Asp	Asp	Leu
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Thr	Asp	Glu	Asp	Asn	Asp	Asp	Met	Gln	Leu	Gln	Ala	Gln	Arg	Ala	Phe
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Thr	Thr	Arg	Arg	Gln	Ile	Ser	Glu	Asp	Val	Asp	Gly	Pro	Asp	Asn	Arg
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Glu	Ser	Pro	Glu	Asn	Trp	Glu	Ile	Val	Arg	Glu	Asp	Glu	Asn	Thr	Glu
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Tyr	Ser	Gly	Gln	Ala	Val	Gln	Ser	Pro	Pro	Ser	Gly	His	Ile	Asp	Val
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Gln	Thr	His	Leu	Ala	Glu	Glu	Phe	Asn	Thr	Arg	Leu	Ala	Val	Cys	Gly
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Asn	Pro	Ala	Thr	Ser	Gln	Pro	Val	Thr	Ser	Ser	Asn	His	Ser	Ser	Arg
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Gly	Gly	Ser	Leu	Gln	Thr	Cys	Ile	Phe	Glu	Glu	Gln	Pro	Thr	Leu	Pro
		275					280					285			
Val	Leu	Leu	Pro	Thr	Ser	Ser	Gly	Leu	Pro	Pro	Gly	Trp	Glu	Glu	Lys
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Pro	Pro	Gly	Trp	Glu	Glu	Arg	Thr	His	Thr	Asp	Gly	Arg	Val	Phe	Phe
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Asn	Val	Ala	Ile	Thr	Gly	Pro	Ala	Val	Pro	Tyr	Ser	Arg	Asp	Tyr	Lys
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Arg	Lys	Tyr	Glu	Phe	Phe	Arg	Arg	Lys	Leu	Lys	Lys	Gln	Thr	Asp	Ile
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			420					425					430		
Ser	Tyr	Arg	Arg	Ile	Met	Gly	Val	Lys	Arg	Ala	Asp	Leu	Leu	Lys	Ala
		435				440						445			
Arg	Leu	Trp	Ile	Glu	Phe	Asp	Gly	Glu	Lys	Gly	Leu	Asp	Tyr	Gly	Gly
450						455					460				
Val	Ala	Arg	Glu	Trp	Phe	Phe	Leu	Ile	Ser	Lys	Glu	Met	Phe	Asn	Pro
465					470					475					480
Tyr	Tyr	Gly	Leu	Phe	Glu	Tyr	Ser	Ala	Thr	Asp	Asn	Tyr	Thr	Leu	Gln
				485					490					495	
Ile	Asn	Pro	Asn	Ser	Gly	Leu	Cys	Asn	Glu	Asp	His	Leu	Ser	Tyr	Phe
			500					505					510		
Lys	Phe	Ile	Gly	Arg	Val	Ala	Gly	Met	Ala	Val	Tyr	His	Gly	Lys	Leu
		515					520					525			
Leu	Asp	Gly	Phe	Phe	Ile	Arg	Pro	Phe	Tyr	Lys	Met	Met	Leu	Gln	Lys
		530				535					540				
Leu	Ile	Thr	Leu	His	Asp	Met	Glu	Ser	Val	Asp	Ser	Glu	Tyr	Tyr	Ser
545					550					555					560
Ser	Leu	Arg	Trp	Ile	Leu	Glu	Asn	Asp	Pro	Thr	Glu	Leu	Asp	Leu	Arg
				565					570					575	
Phe	Ile	Ile	Asp	Glu	Glu	Leu	Phe	Gly	Gln	Thr	His	Gln	His	Glu	Leu

<213> Homo sapiens

Met	Ala	Gly	Asn	Val	Lys	Lys	Ser	Ser	Gly	Ala	Gly	Gly	Gly	Thr	Gly
1				5					10					15	
Ser	Gly	Gly	Ser	Gly	Ser	Gly	Gly	Leu	Ile	Gly	Leu	Met	Lys	Asp	Ala
			20					25					30		
Phe	Gln	Pro	His	His	His	His	His	His	His	Leu	Ser	Pro	His	Pro	Pro
		35					40					45			
Gly	Thr	Val	Asp	Lys	Lys	Met	Val	Glu	Lys	Cys	Trp	Lys	Leu	Met	Asp
	50					55					60				
Lys	Val	Val	Arg	Leu	Cys	Gln	Asn	Pro	Lys	Leu	Ala	Leu	Lys	Asn	Ser
65					70					75				80	
Pro	Pro	Tyr	Ile	Leu	Asp	Leu	Leu	Pro	Asp	Thr	Tyr	Gln	His	Leu	Arg
			85					90					95		
Thr	Ile	Leu	Ser	Arg	Tyr	Glu	Gly	Lys	Met	Glu	Thr	Leu	Gly	Glu	Asn
			100				105						110		
Glu	Tyr	Phe	Arg	Val	Phe	Met	Glu	Asn	Leu	Met	Lys	Lys	Thr	Lys	Gln
		115					120				125				
Thr	Ile	Ser	Leu	Phe	Lys	Glu	Gly	Lys	Glu	Arg	Met	Tyr	Glu	Glu	Asn
	130					135					140				
Ser	Gln	Pro	Arg	Arg	Asn	Leu	Thr	Lys	Leu	Ser	Leu	Ile	Phe	Ser	His
145					150					155					160
Met	Leu	Ala	Glu	Leu	Lys	Gly	Ile	Phe	Pro	Ser	Gly	Leu	Phe	Gln	Gly
			165						170					175	
Asp	Thr	Phe	Arg	Ile	Thr	Lys	Ala	Asp	Ala	Ala	Glu	Phe	Trp	Arg	Lys
			180				185						190		
Ala	Phe	Gly	Glu	Lys	Thr	Ile	Val	Pro	Trp	Lys	Ser	Phe	Arg	Gln	Ala

195	200	205
Leu His Glu Val His Pro Ile Ser Ser Gly Leu Glu Ala Met Ala Leu		
210	215	220
Lys Ser Thr Ile Asp Leu Thr Cys Asn Asp Tyr Ile Ser Val Phe Glu		
225	230	235
Phe Asp Ile Phe Thr Arg Leu Phe Gln Pro Trp Ser Ser Leu Leu Arg		240
	245	250
Asn Trp Asn Ser Leu Ala Val Thr His Pro Gly Tyr Met Ala Phe Leu		255
	260	265
Thr Tyr Asp Glu Val Lys Ala Arg Leu Gln Lys Phe Ile His Lys Pro		270
	275	280
Gly Ser Tyr Ile Phe Arg Leu Ser Cys Thr Arg Leu Gly Gln Trp Ala		285
290	295	300
Ile Gly Tyr Val Thr Ala Asp Gly Asn Ile Leu Gln Thr Ile Pro His		
305	310	315
Asn Lys Pro Leu Phe Gln Ala Leu Ile Asp Gly Phe Arg Glu Gly Phe		320
	325	330
Tyr Leu Phe Pro Asp Gly Arg Asn Gln Asn Pro Asp Leu Thr Gly Leu		335
	340	345
Cys Glu Pro Thr Pro Gln Asp His Ile Lys Val Thr Gln Glu Gln Tyr		350
	355	360
Glu Leu Tyr Cys Glu Met Gly Ser Thr Phe Gln Leu Cys Lys Ile Cys		365
370	375	380
Ala Glu Asn Asp Lys Asp Val Lys Ile Glu Pro Cys Gly His Leu Met		
385	390	395
Cys Thr Ser Cys Leu Thr Ser Trp Gln Glu Ser Glu Gly Gln Gly Cys		400
	405	410
Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Val Val Asp		415
	420	425
Pro Phe Asp Pro Arg Gly Ser Gly Ser Leu Leu Arg Gln Gly Ala Glu		430
	435	440
Gly Ala Pro Ser Pro Asn Tyr Asp Asp Asp Asp Asp Glu Arg Ala Asp		445
450	455	460
Asp Thr Leu Phe Met Met Lys Glu Leu Ala Gly Ala Lys Val Glu Arg		
465	470	475
Pro Pro Ser Pro Phe Ser Met Ala Pro Gln Ala Ser Leu Pro Pro Val		480
	485	490
Pro Pro Arg Leu Asp Leu Leu Pro Gln Arg Val Cys Val Pro Ser Ser		495
	500	505
Ala Ser Ala Leu Gly Thr Ala Ser Lys Ala Ala Ser Gly Ser Leu His		510
	515	520
Lys Asp Lys Pro Leu Pro Val Pro Pro Thr Leu Arg Asp Leu Pro Pro		525
530	535	540
Pro Pro Pro Pro Asp Arg Pro Tyr Ser Val Gly Ala Glu Ser Arg Pro		
545	550	555
Gln Arg Arg Pro Leu Pro Cys Thr Pro Gly Asp Cys Pro Ser Arg Asp		560
	565	570
Lys Leu Pro Pro Val Pro Ser Ser Arg Leu Gly Asp Ser Trp Leu Pro		575
	580	585
Arg Pro Ile Pro Lys Val Pro Val Ser Ala Pro Ser Ser Ser Asp Pro		590
	595	600
Trp Thr Gly Arg Glu Leu Thr Asn Arg His Ser Leu Pro Phe Ser Leu		605
610	615	620
Pro Ser Gln Met Glu Pro Arg Pro Asp Val Pro Arg Leu Gly Ser Thr		
625	630	635
Phe Ser Leu Asp Thr Ser Met Ser Met Asn Ser Ser Pro Leu Val Gly		640
	645	650
		655

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Pro Glu Cys Asp His Pro Lys Ile Lys Pro Ser Ser Ser Ala Asn Ala
    660                      665                      670
Ile Tyr Ser Leu Ala Ala Arg Pro Leu Pro Val Pro Lys Leu Pro Pro
    675                      680                      685
Gly Glu Gln Cys Glu Gly Glu Glu Asp Thr Glu Tyr Met Thr Pro Ser
    690                      695                      700
Ser Arg Pro Leu Arg Pro Leu Asp Thr Ser Gln Ser Ser Arg Ala Cys
705                      710                      715                      720
Asp Cys Asp Gln Gln Ile Asp Ser Cys Thr Tyr Glu Ala Met Tyr Asn
    725                      730                      735
Ile Gln Ser Gln Ala Pro Ser Ile Thr Glu Ser Ser Thr Phe Gly Glu
    740                      745                      750
Gly Asn Leu Ala Ala Ala His Ala Asn Thr Gly Pro Glu Glu Ser Glu
    755                      760                      765
Asn Glu Asp Asp Gly Tyr Asp Val Pro Lys Pro Pro Val Pro Ala Val
    770                      775                      780
Leu Ala Arg Arg Thr Leu Ser Asp Ile Ser Asn Ala Ser Ser Ser Phe
785                      790                      795                      800
Gly Trp Leu Ser Leu Asp Gly Asp Pro Thr Thr Asn Val Thr Glu Gly
    805                      810                      815
Ser Gln Val Pro Glu Arg Pro Pro Lys Pro Phe Pro Arg Arg Ile Asn
    820                      825                      830
Ser Glu Arg Lys Ala Gly Ser Cys Gln Gln Gly Ser Gly Pro Ala Ala
    835                      840                      845
Ser Ala Ala Thr Ala Ser Pro Gln Leu Ser Ser Glu Ile Glu Asn Leu
    850                      855                      860
Met Ser Gln Gly Tyr Ser Tyr Gln Asp Ile Gln Lys Ala Leu Val Ile
865                      870                      875                      880
Ala Gln Asn Asn Ile Glu Met Ala Lys Asn Ile Leu Arg Glu Phe Val
    885                      890                      895
Ser Ile Ser Ser Pro Ala His Val Ala Thr
    900                      905

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<210> 6

<211> 896

<212> PRT

<213> Mus musculus

<400> 6

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Met Ala Gly Asn Val Lys Lys Ser Ser Gly Ala Gly Gly Gly Gly Ser
  1                      5                      10                      15
Gly Gly Ser Gly Ala Gly Gly Leu Ile Gly Leu Met Lys Asp Ala Phe
    20                      25                      30
Gln Pro His His His His His Leu Ser Pro His Pro Pro Cys Thr
    35                      40                      45
Val Asp Lys Lys Met Val Glu Lys Cys Trp Lys Leu Met Asp Lys Val
    50                      55                      60
Val Arg Leu Cys Gln Asn Pro Asn Val Ala Leu Lys Asn Ser Pro Pro
    65                      70                      75                      80
Tyr Ile Leu Asp Leu Leu Pro Asp Thr Tyr Gln His Leu Arg Thr Val
    85                      90                      95
Leu Ser Arg Tyr Glu Gly Lys Met Glu Thr Leu Gly Glu Asn Glu Tyr
    100                      105                      110
Phe Arg Val Phe Met Glu Asn Leu Met Lys Lys Thr Lys Gln Thr Ile
    115                      120                      125
Ser Leu Phe Lys Glu Gly Lys Glu Arg Met Tyr Glu Glu Asn Ser Gln
    130                      135                      140

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Pro	Arg	Arg	Asn	Leu	Thr	Lys	Leu	Ser	Leu	Ile	Phe	Ser	His	Met	Leu
145					150					155					160
Ala	Glu	Leu	Lys	Gly	Ile	Phe	Pro	Ser	Gly	Leu	Phe	Gln	Gly	Asp	Thr
				165					170					175	
Phe	Arg	Ile	Thr	Lys	Ala	Asp	Ala	Ala	Glu	Phe	Trp	Arg	Lys	Ala	Phe
			180					185					190		
Gly	Glu	Lys	Thr	Ile	Val	Pro	Trp	Lys	Ser	Phe	Arg	Gln	Ala	Leu	His
		195					200					205			
Glu	Val	His	Pro	Ile	Ser	Ser	Gly	Leu	Glu	Ala	Met	Ala	Leu	Lys	Ser
	210					215					220				
Thr	Ile	Asp	Leu	Thr	Cys	Asn	Asp	Tyr	Ile	Ser	Val	Phe	Glu	Phe	Asp
225					230					235					240
Ile	Phe	Thr	Arg	Leu	Phe	Gln	Pro	Trp	Ser	Ser	Leu	Leu	Arg	Asn	Trp
				245					250					255	
Asn	Ser	Leu	Ala	Val	Thr	His	Pro	Gly	Tyr	Met	Ala	Phe	Leu	Thr	Tyr
			260					265					270		
Asp	Glu	Val	Lys	Ala	Arg	Leu	Gln	Lys	Phe	Ile	His	Lys	Pro	Gly	Ser
		275					280					285			
Tyr	Ile	Phe	Arg	Leu	Ser	Cys	Thr	Arg	Leu	Gly	Gln	Trp	Ala	Ile	Gly
	290					295					300				
Tyr	Val	Thr	Ala	Asp	Gly	Asn	Ile	Leu	Gln	Thr	Ile	Pro	His	Asn	Lys
305					310					315					320
Pro	Leu	Phe	Gln	Ala	Leu	Ile	Asp	Gly	Phe	Arg	Glu	Gly	Phe	Tyr	Leu
				325					330					335	
Phe	Pro	Asp	Gly	Arg	Asn	Gln	Asn	Pro	Asp	Leu	Thr	Gly	Leu	Cys	Glu
			340					345					350		
Pro	Thr	Pro	Gln	Asp	His	Ile	Lys	Val	Thr	Gln	Ile	Cys	Ala	Glu	Asn
		355					360					365			
Asp	Lys	Asp	Val	Lys	Ile	Glu	Pro	Cys	Gly	His	Leu	Met	Cys	Thr	Ser
	370					375					380				
Cys	Leu	Thr	Ser	Trp	Gln	Glu	Ser	Glu	Gly	Gln	Gly	Cys	Pro	Phe	Cys
385					390					395					400
Arg	Cys	Glu	Ile	Lys	Gly	Thr	Glu	Pro	Ile	Val	Val	Asp	Pro	Phe	Asp
				405					410					415	
Pro	Arg	Gly	Ser	Gly	Ser	Leu	Leu	Arg	Gln	Gly	Ala	Glu	Gly	Ala	Pro
			420					425					430		
Ser	Pro	Asn	Tyr	Asp	Asp	Asp	Asp	Asp	Glu	Arg	Ala	Asp	Asp	Ser	Leu
		435				440						445			
Phe	Met	Met	Lys	Glu	Leu	Ala	Gly	Ala	Lys	Val	Glu	Arg	Pro	Ser	Ser
	450					455					460				
Pro	Phe	Ser	Met	Ala	Pro	Gln	Ala	Ser	Leu	Pro	Val	Pro	Pro	Pro	Arg
465					470					475					480
Leu	Asp	Leu	Leu	Gln	Arg	Ala	Pro	Val	Pro	Ala	Ser	Thr	Ser	Val	
				485				490					495		
Leu	Gly	Thr	Ala	Ser	Lys	Ala	Ala	Ser	Gly	Ser	Leu	His	Lys	Asp	Lys
			500					505					510		
Pro	Leu	Pro	Ile	Pro	Pro	Thr	Leu	Arg	Asp	Leu	Pro	Pro	Pro	Pro	Pro
		515					520					525			
Pro	Asp	Arg	Pro	Tyr	Ser	Val	Gly	Ala	Glu	Thr	Arg	Pro	Gln	Arg	Arg
	530					535					540				
Pro	Leu	Pro	Cys	Thr	Pro	Gly	Asp	Cys	Pro	Ser	Arg	Asp	Lys	Leu	Pro
545					550					555					560
Pro	Val	Pro	Ser	Ser	Arg	Pro	Gly	Asp	Ser	Trp	Leu	Ser	Arg	Thr	Ile
				565				570						575	
Pro	Lys	Val	Pro	Val	Ala	Thr	Pro	Asn	Pro	Gly	Asp	Pro	Trp	Asn	Gly
			580					585					590		
Arg	Glu	Leu	Thr	Asn	Arg	His	Ser	Leu	Pro	Phe	Ser	Leu	Pro	Ser	Gln

Met	Glu	Pro	Arg	Ala	Asp	Val	Pro	Arg	Leu	Gly	Ser	Thr	Phe	Ser	Leu
610						615					620				
Asp	Thr	Ser	Met	Thr	Met	Asn	Ser	Ser	Pro	Val	Ala	Gly	Pro	Glu	Ser
625					630					635					640
Glu	His	Pro	Lys	Ile	Lys	Pro	Ser	Ser	Ser	Ala	Asn	Ala	Ile	Tyr	Ser
				645						650				655	
Leu	Ala	Ala	Arg	Pro	Leu	Pro	Met	Pro	Lys	Leu	Pro	Pro	Gly	Glu	Gln
			660					665					670		
Gly	Glu	Ser	Glu	Glu	Asp	Thr	Glu	Tyr	Met	Thr	Pro	Thr	Ser	Arg	Pro
			675				680					685			
Val	Gly	Val	Gln	Lys	Pro	Glu	Pro	Lys	Arg	Pro	Leu	Glu	Ala	Thr	Gln
	690					695					700				
Ser	Ser	Arg	Ala	Cys	Asp	Cys	Asp	Gln	Gln	Ile	Asp	Ser	Cys	Thr	Tyr
705					710					715					720
Glu	Ala	Met	Tyr	Thr	Ile	Gln	Ser	Gln	Ala	Leu	Ser	Val	Ala	Glu	Asn
				725					730					735	
Ser	Ala	Ser	Gly	Glu	Gly	Asn	Leu	Ala	Thr	Ala	His	Thr	Ser	Thr	Gly
			740					745					750		
Pro	Glu	Glu	Ser	Glu	Asn	Glu	Asp	Asp	Gly	Tyr	Asp	Val	Pro	Lys	Pro
		755					760					765			
Pro	Val	Pro	Ala	Val	Leu	Ala	Arg	Arg	Thr	Leu	Ser	Asp	Ile	Ser	Asn
	770					775						780			
Ala	Ser	Ser	Ser	Phe	Gly	Trp	Leu	Ser	Leu	Asp	Gly	Asp	Pro	Thr	Asn
785					790					795					800
Phe	Asn	Glu	Gly	Ser	Gln	Val	Pro	Glu	Arg	Pro	Pro	Lys	Pro	Phe	Pro
				805					810					815	
Arg	Arg	Ile	Asn	Ser	Glu	Arg	Lys	Ala	Ser	Ser	Tyr	Gln	Gln	Gly	Gly
			820					825					830		
Gly	Ala	Thr	Ala	Asn	Pro	Val	Ala	Thr	Ala	Pro	Ser	Pro	Gln	Leu	Ser
		835					840					845			
Ser	Glu	Ile	Glu	Arg	Leu	Met	Ser	Gln	Gly	Tyr	Ser	Tyr	Gln	Asp	Ile
	850					855					860				
Gln	Lys	Ala	Leu	Val	Ile	Ala	His	Asn	Asn	Ile	Glu	Met	Ala	Lys	Asn
865					870					875					880
Ile	Leu	Arg	Glu	Phe	Val	Ser	Ile	Ser	Ser	Pro	Ala	His	Val	Ala	Thr
				885					890					895	

<210> 7

<211> 982

<212> PRT

<213> Homo sapiens

<400> 7

Met	Ala	Asn	Ser	Met	Asn	Gly	Arg	Asn	Pro	Gly	Gly	Arg	Gly	Gly	Asn
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Pro	Arg	Lys	Gly	Arg	Ile	Leu	Gly	Ile	Ile	Asp	Ala	Ile	Gln	Asp	Ala
			20					25					30		
Val	Gly	Pro	Pro	Lys	Gln	Ala	Ala	Ala	Asp	Arg	Arg	Thr	Val	Glu	Lys
		35				40						45			
Thr	Trp	Lys	Leu	Met	Asp	Lys	Val	Val	Arg	Leu	Cys	Gln	Asn	Pro	Lys
	50					55					60				
Leu	Gln	Leu	Lys	Asn	Ser	Pro	Pro	Tyr	Ile	Leu	Asp	Ile	Leu	Pro	Asp
65					70					75					80
Thr	Tyr	Gln	His	Leu	Arg	Leu	Ile	Leu	Ser	Lys	Tyr	Asp	Asp	Asn	Gln
				85					90					95	
Lys	Leu	Ala	Gln	Leu	Ser	Glu	Asn	Glu	Tyr	Phe	Lys	Ile	Tyr	Ile	Asp

			100					105					110			
Ser	Leu	Met	Lys	Lys	Ser	Lys	Arg	Ala	Ile	Arg	Leu	Phe	Lys	Glu	Gly	
		115					120					125				
Lys	Glu	Arg	Met	Tyr	Glu	Glu	Gln	Ser	Gln	Asp	Arg	Arg	Asn	Leu	Thr	
	130					135					140					
Lys	Leu	Ser	Leu	Ile	Phe	Ser	His	Met	Leu	Ala	Glu	Ile	Lys	Ala	Ile	
145					150					155					160	
Phe	Pro	Asn	Gly	Gln	Phe	Gln	Gly	Asp	Asn	Phe	Arg	Ile	Thr	Lys	Ala	
				165				170						175		
Asp	Ala	Ala	Glu	Phe	Trp	Arg	Lys	Phe	Phe	Gly	Asp	Lys	Thr	Ile	Val	
			180					185					190			
Pro	Trp	Lys	Val	Phe	Arg	Gln	Cys	Leu	His	Glu	Val	His	Gln	Ile	Ser	
		195					200					205				
Ser	Ser	Leu	Glu	Ala	Met	Ala	Leu	Lys	Ser	Thr	Ile	Asp	Leu	Thr	Cys	
		210				215					220					
Asn	Asp	Tyr	Ile	Ser	Val	Phe	Glu	Phe	Asp	Ile	Phe	Thr	Arg	Leu	Phe	
225					230					235					240	
Gln	Pro	Trp	Gly	Ser	Ile	Leu	Arg	Asn	Trp	Asn	Phe	Leu	Ala	Val	Thr	
				245				250						255		
His	Pro	Gly	Tyr	Met	Ala	Phe	Leu	Thr	Tyr	Asp	Glu	Val	Lys	Ala	Arg	
			260					265					270			
Leu	Gln	Lys	Tyr	Ser	Thr	Lys	Pro	Gly	Ser	Tyr	Ile	Phe	Arg	Leu	Ser	
		275					280					285				
Cys	Thr	Arg	Leu	Gly	Gln	Trp	Ala	Ile	Gly	Tyr	Val	Thr	Gly	Asp	Gly	
	290				295						300					
Asn	Ile	Leu	Gln	Thr	Ile	Pro	His	Asn	Lys	Pro	Leu	Phe	Gln	Ala	Leu	
305					310					315					320	
Ile	Asp	Gly	Ser	Arg	Glu	Gly	Phe	Tyr	Leu	Tyr	Pro	Asp	Gly	Arg	Ser	
				325				330						335		
Tyr	Asn	Pro	Asp	Leu	Thr	Gly	Leu	Cys	Glu	Pro	Thr	Pro	His	Asp	His	
			340					345					350			
Ile	Lys	Val	Thr	Gln	Glu	Gln	Tyr	Glu	Leu	Tyr	Cys	Glu	Met	Gly	Ser	
		355					360					365				
Thr	Phe	Gln	Leu	Cys	Lys	Ile	Cys	Ala	Glu	Asn	Asp	Lys	Asp	Val	Lys	
	370					375					380					
Ile	Glu	Pro	Cys	Gly	His	Leu	Met	Cys	Thr	Ser	Cys	Leu	Thr	Ala	Trp	
385					390					395					400	
Gln	Glu	Ser	Asp	Gly	Gln	Gly	Cys	Pro	Phe	Cys	Arg	Cys	Glu	Ile	Lys	
			405					410					415			
Gly	Thr	Glu	Pro	Ile	Ile	Val	Asp	Pro	Phe	Asp	Pro	Arg	Asp	Glu	Gly	
			420					425					430			
Ser	Arg	Cys	Cys	Ser	Ile	Ile	Asp	Pro	Phe	Gly	Met	Pro	Met	Leu	Asp	
		435					440					445				
Leu	Asp	Asp	Asp	Asp	Asp	Arg	Glu	Glu	Ser	Leu	Met	Met	Asn	Arg	Leu	
	450					455				</						

Arg	Pro	Pro	Pro	Ile	Pro	Pro	Asp	Asn	Arg	Leu	Ser	Arg	His	Ile	His
				565					570					575	
His	Val	Glu	Ser	Val	Pro	Ser	Arg	Asp	Pro	Pro	Met	Pro	Leu	Glu	Ala
			580					585					590		
Trp	Cys	Pro	Arg	Asp	Val	Phe	Gly	Thr	Asn	Gln	Leu	Val	Gly	Cys	Arg
		595					600					605			
Leu	Leu	Gly	Glu	Gly	Ser	Pro	Lys	Pro	Gly	Ile	Thr	Ala	Ser	Ser	Asn
	610					615					620				
Val	Asn	Gly	Arg	His	Ser	Arg	Val	Gly	Ser	Asp	Pro	Val	Leu	Met	Arg
625					630					635					640
Lys	His	Arg	Arg	His	Asp	Leu	Pro	Leu	Glu	Gly	Ala	Lys	Val	Phe	Ser
				645					650					655	
Asn	Gly	His	Leu	Gly	Ser	Glu	Glu	Tyr	Asp	Val	Pro	Pro	Arg	Leu	Ser
			660					665					670		
Pro	Pro	Pro	Pro	Val	Thr	Thr	Leu	Leu	Pro	Ser	Ile	Lys	Cys	Thr	Gly
			675				680					685			
Pro	Leu	Ala	Asn	Ser	Leu	Ser	Glu	Lys	Thr	Arg	Asp	Pro	Val	Glu	Glu
	690					695					700				
Asp	Asp	Asp	Glu	Tyr	Lys	Ile	Pro	Ser	Ser	His	Pro	Val	Ser	Leu	Asn
705					710					715					720
Ser	Gln	Pro	Ser	His	Cys	His	Asn	Val	Lys	Pro	Pro	Val	Arg	Ser	Cys
				725					730					735	
Asp	Asn	Gly	His	Cys	Met	Leu	Asn	Gly	Thr	His	Gly	Pro	Ser	Ser	Glu
			740					745					750		
Lys	Lys	Ser	Asn	Ile	Pro	Asp	Leu	Ser	Ile	Tyr	Leu	Lys	Gly	Asp	Val
		755					760					765			
Phe	Asp	Ser	Ala	Ser	Asp	Pro	Val	Pro	Leu	Pro	Pro	Ala	Arg	Pro	Pro
	770					775					780				
Thr	Arg	Asp	Asn	Pro	Lys	His	Gly	Ser	Ser	Leu	Asn	Arg	Thr	Pro	Ser
785					790					795					800
Asp	Tyr	Asp	Leu	Leu	Ile	Pro	Pro	Leu	Gly	Glu	Asp	Ala	Phe	Asp	Ala
				805					810					815	
Leu	Pro	Pro	Ser	Leu	Pro	Pro	Pro	Pro	Pro	Pro	Ala	Arg	His	Ser	Leu
			820					825					830		
Ile	Glu	His	Ser	Lys	Pro	Pro	Gly	Ser	Ser	Ser	Arg	Pro	Ser	Ser	Gly
		835					840					845			
Gln	Asp	Leu	Phe	Leu	Leu	Pro	Ser	Asp	Pro	Phe	Val	Asp	Leu	Ala	Ser
	850					855					860				
Gly	Gln	Val	Pro	Leu	Pro	Pro	Ala	Arg	Arg	Leu	Pro	Gly	Glu	Asn	Val
865					870					875					880
Lys	Thr	Asn	Arg	Thr	Ser	Gln	Asp	Tyr	Asp	Gln	Leu	Pro	Ser	Cys	Ser
				885					890					895	
Asp	Gly	Ser	Gln	Ala	Pro	Ala	Arg	Pro	Pro	Lys	Pro	Arg	Pro	Arg	Arg
			900					905					910		
Thr	Ala	Pro	Glu	Ile	His	His	Arg	Lys	Pro	His	Gly	Pro	Glu	Ala	Ala
			915				920						925		
Leu	Glu	Asn	Val	Asp	Ala	Lys	Ile	Ala	Lys	Leu	Met	Gly	Glu	Gly	Tyr
	930					935					940				
Ala	Phe	Glu	Glu	Val	Lys	Arg	Ala	Leu	Glu	Ile	Ala	Gln	Asn	Asn	Val
945					950					955					960
Glu	Val	Ala	Arg	Ser	Ile	Leu	Arg	Glu	Phe	Ala	Phe	Pro	Pro	Pro	Val
				965					970					975	
Ser	Pro	Arg	Leu	Asn	Leu										
				980											

<210> 8

<211> 547

<212> PRT

<213> Mus musculus

<400> 8

```

Met Cys Thr Ser Cys Leu Thr Ala Trp Gln Glu Ser Asp Gly Gln Gly
 1           5           10           15
Cys Pro Phe Cys Arg Cys Glu Ile Lys Gly Thr Glu Pro Ile Ile Val
 20           25           30
Asp Pro Phe Asp Pro Arg Asp Glu Gly Ser Arg Cys Cys Ser Ile Ile
 35           40           45
Asp Pro Phe Ser Ile Pro Met Leu Asp Leu Asp Asp Asp Asp Arg
 50           55           60
Glu Glu Ser Leu Met Met Asn Arg Leu Ala Ser Val Arg Lys Cys Thr
 65           70           75           80
Asp Arg Gln Asn Ser Pro Val Thr Ser Pro Gly Ser Ser Pro Leu Ala
 85           90           95
Gln Arg Arg Lys Pro Gln Pro Asp Pro Leu Gln Ile Pro His Leu Ser
100           105           110
Leu Pro Pro Val Pro Pro Arg Leu Asp Leu Ile Gln Lys Gly Ile Val
115           120           125
Arg Ser Pro Cys Gly Ser Pro Thr Gly Ser Pro Lys Ser Ser Pro Cys
130           135           140
Met Val Arg Lys Gln Asp Lys Pro Leu Pro Ala Pro Pro Pro Pro Leu
145           150           155           160
Arg Asp Pro Pro Pro Pro Pro Glu Arg Pro Pro Pro Ile Pro Pro Asp
165           170           175
Asn Arg Leu Ser Arg His Phe His His Gly Glu Ser Val Pro Ser Arg
180           185           190
Asp Gln Pro Met Pro Leu Glu Ala Trp Cys Pro Arg Asp Ala Phe Gly
195           200           205
Thr Asn Gln Val Met Gly Cys Arg Ile Leu Gly Asp Gly Ser Pro Lys
210           215           220
Pro Gly Val Thr Ala Asn Ser Ser Leu Asn Gly Arg His Ser Arg Met
225           230           235           240
Gly Ser Glu Gln Val Leu Met Arg Lys His Arg Arg His Asp Leu Pro
245           250           255
Ser Glu Gly Ala Lys Val Phe Ser Asn Gly His Leu Ala Thr Glu Glu
260           265           270
Tyr Asp Val Pro Pro Arg Leu Ser Pro Pro Pro Pro Val Thr Thr Leu
275           280           285
Leu Pro Ser Ile Lys Cys Thr Gly Pro Leu Ala Asn Cys Leu Ser Glu
290           295           300
Lys Thr Arg Asp Thr Val Glu Asp Asp Asp Asp Glu Tyr Lys Ile Pro
305           310           315           320
Ser Ser His Pro Val Ser Leu Asn Ser Gln Pro Ser His Cys His Asn
325           330           335
Val Lys Ala Pro Val Arg Ser Cys Asp Asn Gly His Cys Ile Leu Asn
340           345           350
Gly Thr His Gly Ala Pro Ser Glu Met Lys Lys Ser Asn Ile Pro Asp
355           360           365
Leu Gly Ile Tyr Leu Lys Gly Glu Asp Ala Phe Asp Ala Leu Pro Pro
370           375           380
Ser Leu Pro Pro Pro Pro Pro Pro Ala Arg His Ser Leu Ile Glu His
385           390           395           400
Ser Lys Pro Pro Gly Ser Ser Ser Arg Pro Ser Ser Gly Gln Asp Leu
405           410           415
Phe Leu Leu Pro Ser Asp Pro Phe Phe Asp Pro Thr Ser Gly Gln Val

```



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          420          425          430
Pro Leu Pro Pro Ala Arg Arg Ala Ala Gly Asp Ser Gly Lys Ala Asn
          435          440          445
Arg Ala Ser Gln Asp Tyr Asp Gln Leu Pro Ser Ser Ser Asp Gly Ser
          450          455          460
Gln Ala Pro Ala Arg Pro Pro Lys Pro Arg Pro Arg Arg Thr Ala Pro
465          470          475          480
Glu Ile His His Arg Lys Pro His Gly Pro Glu Ala Ala Leu Glu Asn
          485          490          495
Val Asp Ala Lys Ile Ala Lys Leu Met Gly Glu Gly Tyr Ala Phe Glu
          500          505          510
Glu Val Lys Arg Ala Leu Glu Ile Ala Gln Asn Asn Val Glu Val Ala
          515          520          525
Arg Ser Ile Leu Arg Glu Phe Ala Phe Pro Pro Pro Val Ser Pro Arg
          530          535          540
Leu Asn Leu
545

```

```

<210> 9
<211> 474
<212> PRT
<213> Homo sapiens

```

```

<400> 9
Met Ala Leu Ala Val Ala Pro Trp Gly Arg Gln Trp Glu Glu Ala Arg
 1          5          10          15
Ala Leu Gly Arg Ala Val Arg Met Leu Gln Arg Leu Glu Glu Gln Cys
          20          25          30
Val Asp Pro Arg Leu Ser Val Ser Pro Pro Ser Leu Arg Asp Leu Leu
          35          40          45
Pro Arg Thr Ala Gln Leu Leu Arg Glu Val Ala His Ser Arg Arg Ala
          50          55          60
Ala Gly Gly Gly Gly Pro Gly Gly Pro Gly Gly Ser Gly Asp Phe Leu
65          70          75          80
Leu Ile Tyr Leu Ala Asn Leu Glu Ala Lys Ser Arg Gln Val Ala Ala
          85          90          95
Leu Leu Pro Pro Arg Gly Arg Arg Ser Ala Asn Asp Glu Leu Phe Arg
          100          105          110
Ala Gly Ser Arg Leu Arg Arg Gln Leu Ala Lys Leu Ala Ile Ile Phe
          115          120          125
Ser His Met His Ala Glu Leu His Ala Leu Phe Pro Gly Gly Lys Tyr
          130          135          140
Cys Gly His Met Tyr Gln Leu Thr Lys Ala Pro Ala His Thr Phe Trp
145          150          155          160
Arg Glu Ser Cys Gly Ala Arg Cys Val Leu Pro Trp Ala Glu Phe Glu
          165          170          175
Ser Leu Leu Gly Thr Cys His Pro Val Glu Pro Gly Cys Thr Ala Leu
          180          185          190
Ala Leu Arg Thr Thr Ile Asp Leu Thr Cys Ser Gly His Val Ser Ile
          195          200          205
Phe Glu Phe Asp Val Phe Thr Arg Leu Phe Gln Pro Trp Pro Thr Leu
          210          215          220
Leu Lys Asn Trp Gln Leu Leu Ala Val Thr His Pro Gly Tyr Met Ala
225          230          235          240
Phe Leu Thr Tyr Asp Glu Val Gln Glu Arg Leu Gln Ala Cys Arg Asp
          245          250          255
Lys Pro Gly Ser Tyr Ile Phe Arg Pro Ser Cys Thr Arg Leu Gly Gln

```

[illegible]

```
<210> 10
<211> 496
<212> PRT
<213> Mus musculus
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<400>	10															
Met	Ala	Ala	Ala	Ala	Ala	Pro	Arg	Gly	Trp	Gln	Arg	Gly	Glu	Pro	Arg	
1				5					10					15		
Ala	Leu	Ser	Arg	Ala	Val	Lys	Leu	Leu	Gln	Arg	Leu	Glu	Glu	Gln	Cys	
			20					25					30			
Arg	Asp	Pro	Arg	Met	Val	Thr	Gly	Pro	Pro	Ser	Leu	Arg	Asp	Leu	Leu	
		35					40					45				
Pro	Arg	Thr	Ala	Gln	Leu	Leu	Gly	Glu	Val	Ala	Lys	Ala	Arg	Arg	Glu	
	50					55				60						
Ala	Arg	Glu	Asp	Pro	Glu	Gly	Pro	Gly	Gly	Ala	Asp	Asp	Phe	Leu	Ala	
65					70					75					80	
Ile	Tyr	Leu	Ala	Asn	Leu	Glu	Val	Lys	Gly	Arg	Gln	Val	Ala	Glu	Leu	
				85					90					95		
Leu	Pro	Pro	Arg	Gly	Lys	Lys	Asp	Val	Asn	Gln	Asp	Val	Phe	Arg	Glu	
			100					105					110			
Gly	Ser	Arg	Phe	Arg	Arg	Gln	Leu	Ala	Lys	Leu	Ala	Leu	Ile	Phe	Ser	
		115					120					125				
His	Met	His	Ala	Glu	Leu	Ser	Ala	Leu	Phe	Pro	Ala	Gly	Lys	Tyr	Cys	
	130					135					140					
Gly	His	Leu	Tyr	Gln	Leu	Thr	Lys	Gly	Ser	Ala	His	Ile	Phe	Trp	Arg	
145					150					155					160	
Gln	Asn	Cys	Gly	Val	Arg	Cys	Val	Leu	Pro	Trp	Ala	Glu	Phe	Gln	Ser	
				165					170					175		
Leu	Leu	Cys	Ala	Cys	His	Pro	Val	Glu	Pro	Gly	Pro	Thr	Met	Gln	Ala	

				180				185					190			
Leu	Arg	Ser	Thr	Leu	Asp	Leu	Thr	Cys	Asn	Gly	His	Val	Ser	Val	Phe	
		195					200					205				
Glu	Phe	Asp	Val	Phe	Thr	Arg	Leu	Phe	Gln	Pro	Trp	Pro	Thr	Leu	Leu	
	210					215					220					
Arg	Asn	Trp	Gln	Leu	Leu	Ala	Val	Asn	His	Pro	Gly	Tyr	Met	Ala	Phe	
225					230					235					240	
Leu	Thr	Tyr	Asp	Glu	Val	Gln	Thr	Arg	Leu	Gln	Ala	Tyr	Arg	Asp	Lys	
			245						250					255		
Pro	Gly	Ser	Tyr	Ile	Phe	Arg	Pro	Ser	Cys	Thr	Arg	Leu	Gly	Gln	Trp	
			260					265					270			
Ala	Ile	Gly	Tyr	Val	Ser	Ser	Asp	Gly	Ser	Ile	Leu	Gln	Thr	Ile	Pro	
		275					280					285				
Leu	Asn	Lys	Pro	Leu	Leu	Gln	Val	Leu	Leu	Lys	Gly	Gln	Lys	Asp	Gly	
	290					295					300					
Ile	Phe	Leu	Phe	Pro	Asp	Gly	Lys	Lys	His	Asn	Pro	Asp	Leu	Thr	Glu	
305					310					315					320	
Leu	Cys	Arg	Val	Glu	Pro	Tyr	Gln	Arg	Ile	Gln	Val	Ser	Glu	Glu	Gln	
			325						330					335		
Leu	Leu	Leu	Tyr	Gln	Ala	Met	Asn	Ser	Thr	Phe	Gln	Leu	Cys	Lys	Ile	
			340					345					350			
Cys	Ala	Glu	Arg	Asp	Lys	Asp	Val	Arg	Ile	Glu	Pro	Cys	Gly	His	Leu	
		355					360					365				
Leu	Cys	Ser	Cys	Cys	Leu	Ser	Ala	Trp	Gln	Asp	Ser	Asp	Ser	Gln	Thr	
	370					375					380					
Cys	Pro	Phe	Cys	Arg	Cys	Glu	Ile	Lys	Gly	Arg	Glu	Ala	Val	Ser	Ile	
385					390					395					400	
Cys	Gln	Ala	Gln	Glu	Arg	Pro	Thr	Glu	Val	Arg	Thr	Ala	Ala	Asp	Gly	
			405						410					415		
Ser	Arg	Asp	Asn	Cys	His	Gln	Glu	Ala	Ala	Glu	Gln	Lys	Leu	Gly	Pro	
			420					425					430			
Val	Ile	Pro	Ser	Ala	Pro	Ser	Leu	Leu	Pro	Glu	Asp	Gln	Phe	Pro	Gln	
		435					440					445				
Gly	Pro	Gln	Asp	Lys	Gly	Trp	Leu	Thr	Leu	Ala	Pro	Leu	Ala	Leu	Pro	
	450					455					460					
Arg	Leu	Arg	Pro	Pro	Leu	Pro	Leu	Pro	Lys	Met	Ala	Ser	Val	Leu	Trp	
465					470					475					480	
Glu	Val	Thr	Ser	Arg	Pro	Arg	Ala	Arg	Glu	Glu	Ala	Thr	Glu	Ser	Ser	
			485						490					495		

```
<210> 11
<211> 428
<212> PRT
<213> Homo sapiens
```

<400> 11															
Met	Gly	Pro	Pro	Pro	Gly	Ala	Gly	Val	Ser	Cys	Arg	Gly	Gly	Cys	Gly
1				5					10					15	
Phe	Ser	Arg	Leu	Leu	Ala	Trp	Cys	Phe	Leu	Leu	Ala	Leu	Ser	Pro	Gln
			20					25					30		
Ala	Pro	Gly	Ser	Arg	Gly	Ala	Glu	Ala	Val	Trp	Thr	Ala	Tyr	Leu	Asn
		35					40					45			
Val	Ser	Trp	Arg	Val	Pro	His	Thr	Gly	Val	Asn	Arg	Thr	Val	Trp	Glu
	50					55					60				
Leu	Ser	Glu	Glu	Gly	Val	Tyr	Gly	Gln	Asp	Ser	Pro	Leu	Glu	Pro	Val
65					70					75					80
Ala	Gly	Val	Leu	Val	Pro	Pro	Asp	Gly	Pro	Gly	Ala	Leu	Asn	Ala	Cys

				85				90					95				
Asn	Pro	His	Thr	Asn	Phe	Thr	Val	Pro	Thr	Val	Trp	Gly	Ser	Thr	Val		
			100					105					110				
Gln	Val	Ser	Trp	Leu	Ala	Leu	Ile	Gln	Arg	Gly	Gly	Gly	Cys	Thr	Phe		
		115					120					125					
Ala	Asp	Lys	Ile	His	Leu	Ala	Tyr	Glu	Arg	Gly	Ala	Ser	Gly	Ala	Val		
	130					135					140						
Ile	Phe	Asn	Phe	Pro	Gly	Thr	Arg	Asn	Glu	Val	Ile	Pro	Met	Ser	His		
145					150					155					160		
Pro	Gly	Ala	Val	Asp	Ile	Val	Ala	Ile	Met	Ile	Gly	Asn	Leu	Lys	Gly		
				165					170					175			
Thr	Lys	Ile	Leu	Gln	Ser	Ile	Gln	Arg	Gly	Ile	Gln	Val	Thr	Met	Val		
			180					185					190				
Ile	Glu	Val	Gly	Lys	Lys	His	Gly	Pro	Trp	Val	Asn	His	Tyr	Ser	Ile		
		195					200					205					
Phe	Phe	Val	Ser	Val	Ser	Phe	Phe	Ile	Ile	Thr	Ala	Ala	Thr	Val	Gly		
	210					215					220						
Tyr	Phe	Ile	Phe	Tyr	Ser	Ala	Arg	Arg	Leu	Arg	Asn	Ala	Arg	Ala	Gln		
225					230					235					240		
Ser	Arg	Lys	Gln	Arg	Gln	Leu	Lys	Ala	Asp	Ala	Lys	Lys	Ala	Ile	Gly		
				245				250					255				
Arg	Leu	Gln	Leu	Arg	Thr	Leu	Lys	Gln	Gly	Asp	Lys	Glu	Ile	Gly	Pro		
			260					265					270				
Asp	Gly	Asp	Ser	Cys	Ala	Val	Cys	Ile	Glu	Leu	Tyr	Lys	Pro	Asn	Asp		
	275						280					285					
Leu	Val	Arg	Ile	Leu	Thr	Cys	Asn	His	Ile	Phe	His	Lys	Thr	Cys	Val		
	290					295					300						
Asp	Pro	Trp	Leu	Leu	Glu	His	Arg	Thr	Cys	Pro	Met	Cys	Lys	Cys	Asp		
305					310					315					320		
Ile	Leu	Lys	Ala	Leu	Gly	Ile	Glu	Val	Asp	Val	Glu	Asp	Gly	Ser	Val		
				325				330					335				
Ser	Leu	Gln	Val	Pro	Val	Ser	Asn	Glu	Ile	Ser	Asn	Ser	Ala	Ser	Ser		
			340					345					350				
His	Glu	Glu	Asp	Asn	Arg	Ser	Glu	Thr	Ala	Ser	Ser	Gly	Tyr	Ala	Ser		
		355					360					365					
Val	Gln	Gly	Thr	Asp	Glu	Pro	Pro	Leu	Glu	Glu	His	Val	Gln	Ser	Thr		
	370					375					380						
Asn	Glu	Ser	Leu	Gln	Leu	Val	Asn	His	Glu	Ala	Asn	Ser	Val	Ala	Val		
385					390					395					400		
Asp	Val	Ile	Pro	His	Val	Asp	Asn	Pro	Thr	Phe	Glu	Glu	Asp	Glu	Thr		
				405					410					415			
Pro	Asn	Gln	Glu	Thr	Ala	Val	Arg	Glu	Ile	Lys	Ser						
			420					425									

<210> 12

<211> 428

<212> PRT

<213> Mus musculus

<400> 12

Met	Gly	Pro	Pro	Pro	Gly	Ile	Gly	Val	Tyr	Cys	Arg	Gly	Gly	Cys	Gly		
1				5				10						15			
Ala	Ala	Arg	Leu	Leu	Ala	Trp	Cys	Phe	Leu	Leu	Ala	Leu	Ser	Pro	His		
			20				25					30					
Ala	Pro	Gly	Ser	Arg	Gly	Ala	Glu	Ala	Val	Trp	Thr	Ala	Tyr	Leu	Asn		
		35				40					45						
Val	Ser	Trp	Arg	Val	Pro	His	Thr	Gly	Val	Asn	Arg	Thr	Val	Trp	Glu		

50		55		60
Leu Ser Glu Glu Gly Val Tyr Gly Gln Asp Ser Pro Leu Glu Pro Val				
65		70		75
Ser Gly Val Leu Val Pro Pro Asp Gly Pro Gly Ala Leu Asn Ala Cys				80
	85		90	95
Asn Pro His Thr Asn Phe Thr Val Pro Thr Val Trp Gly Ser Thr Val				
	100		105	110
Gln Val Ser Trp Leu Ala Leu Ile Gln Arg Gly Gly Ser Cys Thr Phe				
	115		120	125
Ala Asp Asn Ile His Leu Ala Ser Glu Arg Gly Ala Ser Gly Ala Val				
	130		135	140
Ile Phe Asn Phe Pro Gly Thr Arg Asn Glu Val Ile Pro Met Ser His				
	145		150	155
Pro Gly Ala Gly Asp Ile Val Ala Ile Met Ile Gly Asn Leu Lys Gly				
	165		170	175
Thr Lys Ile Leu Gln Ser Ile Gln Arg Gly Ile Gln Val Thr Met Val				
	180		185	190
Ile Glu Val Gly Lys Lys His Gly Pro Trp Val Asn His Tyr Ser Ile				
	195		200	205
Phe Phe Val Ser Val Ser Phe Phe Ile Ile Thr Ala Ala Thr Val Gly				
	210		215	220
Tyr Phe Ile Phe Tyr Ser Ala Arg Arg Leu Arg Asn Ala Arg Ala Gln				
	225		230	235
Ser Arg Lys Gln Arg Gln Leu Lys Ala Asp Ala Lys Lys Ala Ile Gly				
	245		250	255
Lys Leu Gln Leu Arg Thr Leu Lys Gln Gly Asp Lys Glu Ile Gly Pro				
	260		265	270
Asp Gly Asp Ser Cys Ala Val Cys Ile Glu Leu Tyr Lys Pro Asn Asp				
	275		280	285
Leu Val Arg Ile Leu Thr Cys Asn His Ile Phe His Lys Thr Cys Val				
	290		295	300
Asp Pro Trp Leu Leu Glu His Arg Thr Cys Pro Met Cys Lys Cys Asp				
	305		310	315
Ile Leu Lys Ala Leu Gly Ile Glu Val Asp Val Glu Asp Gly Ser Val				
	325		330	335
Ser Leu Gln Val Pro Val Ser Asn Glu Ala Ser Asn Thr Ala Ser Pro				
	340		345	350
His Glu Glu Asp Ser Arg Ser Glu Thr Ala Ser Ser Gly Tyr Ala Ser				
	355		360	365
Val Gln Gly Ala Asp Glu Pro Pro Leu Glu Glu His Ala Gln Ser Ala				
	370		375	380
Asn Glu Asn Leu Gln Leu Val Asn His Glu Ala Asn Ser Val Ala Val				
	385		390	395
Asp Val Val Pro His Val Asp Asn Pro Thr Phe Glu Glu Asp Glu Thr				
	405		410	415
Pro Asp Gln Glu Ala Ala Val Arg Glu Ile Lys Ser				
	420		425	

<210> 13

<211> 1291

<212> PRT

<213> Homo sapiens

<400> 13

Met Ala Gly Ala Ala Ser Pro Cys Ala Asn Gly Cys Gly Pro Gly Ala				
1	5	10	15	
Pro Ser Asp Ala Glu Val Leu His Leu Cys Arg Ser Leu Glu Val Gly				

				20						25					30		
Thr	Val	Met	Thr	Leu	Phe	Tyr	Ser	Lys	Lys	Ser	Gln	Arg	Pro	Glu	Arg		
		35					40					45					
Lys	Thr	Phe	Gln	Val	Lys	Leu	Glu	Thr	Arg	Gln	Ile	Thr	Trp	Ser	Arg		
	50				55					60							
Gly	Ala	Asp	Lys	Ile	Glu	Gly	Ala	Ile	Asp	Ile	Arg	Glu	Ile	Lys	Glu		
65				70						75				80			
Ile	Arg	Pro	Gly	Lys	Thr	Ser	Arg	Asp	Phe	Asp	Arg	Tyr	Gln	Glu	Asp		
			85					90					95				
Pro	Ala	Phe	Arg	Pro	Asp	Gln	Ser	His	Cys	Phe	Val	Ile	Leu	Tyr	Gly		
		100					105					110					
Met	Glu	Phe	Arg	Leu	Lys	Thr	Leu	Ser	Leu	Gln	Ala	Thr	Ser	Glu	Asp		
	115						120					125					
Glu	Val	Asn	Met	Trp	Ile	Lys	Gly	Leu	Thr	Trp	Leu	Met	Glu	Asp	Thr		
	130				135					140							
Leu	Gln	Ala	Pro	Thr	Pro	Leu	Gln	Ile	Glu	Arg	Trp	Leu	Arg	Lys	Gln		
145				150						155				160			
Phe	Tyr	Ser	Val	Asp	Arg	Asn	Arg	Glu	Asp	Arg	Ile	Ser	Ala	Lys	Asp		
			165					170						175			
Leu	Lys	Asn	Met	Leu	Ser	Gln	Val	Asn	Tyr	Arg	Val	Pro	Asn	Met	Arg		
		180					185						190				
Phe	Leu	Arg	Glu	Arg	Leu	Thr	Asp	Leu	Glu	Gln	Arg	Ser	Gly	Asp	Ile		
	195					200						205					
Thr	Tyr	Gly	Gln	Phe	Ala	Gln	Leu	Tyr	Arg	Ser	Leu	Met	Tyr	Ser	Ala		
	210				215						220						
Gln	Lys	Thr	Met	Asp	Leu	Pro	Phe	Leu	Glu	Ala	Ser	Thr	Leu	Arg	Ala		
225				230						235					240		
Gly	Glu	Arg	Pro	Glu	Leu	Cys	Arg	Val	Ser	Leu	Pro	Glu	Phe	Gln	Gln		
			245					250						255			
Phe	Leu	Leu	Asp	Tyr	Gln	Gly	Glu	Leu	Trp	Ala	Val	Asp	Arg	Leu	Gln		
		260					265						270				
Val	Gln	Glu	Phe	Met	Leu	Ser	Phe	Leu	Arg	Asp	Pro	Leu	Arg	Glu	Ile		
	275					280						285					
Glu	Glu	Pro	Tyr	Phe	Phe	Leu	Asp	Glu	Phe	Val	Thr	Phe	Leu	Phe	Ser		
	290				295					300							
Lys	Glu	Asn	Ser	Val	Trp	Asn	Ser	Gln	Leu	Asp	Ala	Val	Cys	Pro	Asp		
305				310						315				320			
Thr	Met	Asn	Asn	Pro	Leu	Ser	His	Tyr	Trp	Ile	Ser	Ser	Ser	His	Asn		
			325						330					335			
Thr	Tyr	Leu	Thr	Gly	Asp	Gln	Phe	Ser	Ser	Glu	Ser	Ser	Leu	Glu	Ala		
		340					345						350				

Tyr	Ser	Glu	Asn	Asp	Ile	Ser	Asn	Ser	Ile	Lys	Asn	Gly	Ile	Leu	Tyr
				485					490					495	
Leu	Glu	Asp	Pro	Val	Asn	His	Glu	Trp	Tyr	Pro	His	Tyr	Phe	Val	Leu
			500					505					510		
Thr	Ser	Ser	Lys	Ile	Tyr	Tyr	Ser	Glu	Glu	Thr	Ser	Ser	Asp	Gln	Gly
			515				520					525			
Asn	Glu	Asp	Glu	Glu	Glu	Pro	Lys	Glu	Val	Ser	Ser	Ser	Thr	Glu	Leu
			530			535					540				
His	Ser	Asn	Glu	Lys	Trp	Phe	His	Gly	Lys	Leu	Gly	Ala	Gly	Arg	Asp
545					550					555					560
Gly	Arg	His	Ile	Ala	Glu	Arg	Leu	Leu	Thr	Glu	Tyr	Cys	Ile	Glu	Thr
				565						570					575
Gly	Ala	Pro	Asp	Gly	Ser	Phe	Leu	Val	Arg	Glu	Ser	Glu	Thr	Phe	Val
			580					585					590		
Gly	Asp	Tyr	Thr	Leu	Ser	Phe	Trp	Arg	Asn	Gly	Lys	Val	Gln	His	Cys
			595				600					605			
Arg	Ile	His	Ser	Arg	Gln	Asp	Ala	Gly	Thr	Pro	Lys	Phe	Phe	Leu	Thr
			610			615					620				
Asp	Asn	Leu	Val	Phe	Asp	Ser	Leu	Tyr	Asp	Leu	Ile	Thr	His	Tyr	Gln
625					630					635					640
Gln	Val	Pro	Leu	Arg	Cys	Asn	Glu	Phe	Glu	Met	Arg	Leu	Ser	Glu	Pro
				645					650					655	
Val	Pro	Gln	Thr	Asn	Ala	His	Glu	Ser	Lys	Glu	Trp	Tyr	His	Ala	Ser
			660					665					670		
Leu	Thr	Arg	Ala	Gln	Ala	Glu	His	Met	Leu	Met	Arg	Val	Pro	Arg	Asp
			675				680					685			
Gly	Ala	Phe	Leu	Val	Arg	Lys	Arg	Asn	Glu	Pro	Asn	Ser	Tyr	Ala	Ile
			690			695					700				
Ser	Phe	Arg	Ala	Glu	Gly	Lys	Ile	Lys	His	Cys	Arg	Val	Gln	Gln	Glu
705					710					715					720
Gly	Gln	Thr	Val	Met	Leu	Gly	Asn	Ser	Glu	Phe	Asp	Ser	Leu	Val	Asp
				725					730					735	
Leu	Ile	Ser	Tyr	Tyr	Glu	Lys	His	Pro	Leu	Tyr	Arg	Lys	Met	Lys	Leu
			740					745					750		
Arg	Tyr	Pro	Ile	Asn	Glu	Glu	Ala	Leu	Glu	Lys	Ile	Gly	Thr	Ala	Glu
			755				760					765			
Pro	Asp	Tyr	Gly	Ala	Leu	Tyr	Glu	Gly	Arg	Asn	Pro	Gly	Phe	Tyr	Val
			770			775					780				
Glu	Ala	Asn	Pro	Met	Pro	Thr	Phe	Lys	Cys	Ala	Val	Lys	Ala	Leu	Phe
785					790					795					800
Asp	Tyr	Lys	Ala	Gln	Arg	Glu	Asp	Glu	Leu	Thr	Phe	Ile	Lys	Ser	Ala
				805					810					815	
Ile	Ile	Gln	Asn	Val	Glu	Lys	Gln	Glu	Gly	Gly	Trp	Trp	Arg	Gly	Asp
			820					825					830		
Tyr	Gly	Gly	Lys	Lys											

930		935		940
Arg Arg Lys Lys Ile Ala Leu Glu Leu Ser Glu Leu Val Val Tyr Cys				
945		950		955
Arg Pro Val Pro Phe Asp Glu Glu Lys Ile Gly Thr Glu Arg Ala Cys				
	965		970	975
Tyr Arg Asp Met Ser Ser Phe Pro Glu Thr Lys Ala Glu Lys Tyr Val				
	980		985	990
Asn Lys Ala Lys Gly Lys Lys Phe Leu Gln Tyr Asn Arg Leu Gln Leu				
	995	1000		1005
Ser Arg Ile Tyr Pro Lys Gly Gln Arg Leu Asp Ser Ser Asn Tyr Asp				
1010		1015		1020
Pro Leu Pro Met Trp Ile Cys Gly Ser Gln Leu Val Ala Leu Asn Phe				
1025		1030		1035
Gln Thr Pro Asp Lys Pro Met Gln Met Asn Gln Ala Leu Phe Met Thr				
	1045		1050	1055
Gly Arg His Cys Gly Tyr Val Leu Gln Pro Ser Thr Met Arg Asp Glu				
	1060		1065	1070
Ala Phe Asp Pro Phe Asp Lys Ser Ser Leu Arg Gly Leu Glu Pro Cys				
	1075		1080	1085
Ala Ile Ser Ile Glu Val Leu Gly Ala Arg His Leu Pro Lys Asn Gly				
1090		1095		1100
Arg Gly Ile Val Cys Pro Phe Val Glu Ile Glu Val Ala Gly Ala Glu				
1105		1110		1115
Tyr Asp Ser Thr Lys Gln Lys Thr Glu Phe Val Val Asp Asn Gly Leu				
	1125		1130	1135
Asn Pro Val Trp Pro Ala Lys Pro Phe His Phe Gln Ile Ser Asn Pro				
	1140		1145	1150
Glu Phe Ala Phe Leu Arg Phe Val Val Tyr Glu Glu Asp Met Phe Ser				
	1155		1160	1165
Asp Gln Asn Phe Leu Ala Gln Ala Thr Phe Pro Val Lys Gly Leu Lys				
1170		1175		1180
Thr Gly Tyr Arg Ala Val Pro Leu Lys Asn Asn Tyr Ser Glu Asp Leu				
1185		1190		1195
Glu Leu Ala Ser Leu Leu Ile Lys Ile Asp Ile Phe Pro Ala Lys Gln				
	1205		1210	1215
Glu Asn Gly Asp Leu Ser Pro Phe Ser Gly Thr Ser Leu Arg Glu Arg				
	1220		1225	1230
Gly Ser Asp Ala Ser Gly Gln Leu Phe His Gly Arg Ala Arg Glu Gly				
	1235		1240	1245
Ser Phe Glu Ser Arg Tyr Gln Gln Pro Phe Glu Asp Phe Arg Ile Ser				
1250		1255		1260
Gln Glu His Leu Ala Asp His Phe Asp Ser Arg Glu Arg Arg Ala Pro				
1265		1270		1275
Arg Arg Thr Arg Val Asn Gly Asp Asn Arg Leu				
	1285		1290	

<210> 14

<211> 1178

<212> PRT

<213> Mus musculus

<400> 14

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Glu Val Asn Met Trp Ile Lys Gly Leu Thr Trp Leu Met Glu Asp Thr
20 25 30
Leu Gln Ala Ala Thr Pro Leu Gln Ile Glu Arg Trp Leu Arg Lys Gln

	35					40					45				
Phe	Tyr	Ser	Val	Asp	Arg	Asn	Arg	Glu	Asp	Arg	Ile	Ser	Ala	Lys	Asp
	50					55					60				
Leu	Lys	Asn	Met	Leu	Ser	Gln	Val	Asn	Tyr	Arg	Val	Pro	Asn	Met	Arg
65					70					75					80
Phe	Leu	Arg	Glu	Arg	Leu	Thr	Asp	Leu	Glu	Gln	Arg	Ser	Gly	Asp	Ile
				85					90					95	
Thr	Tyr	Gly	Gln	Phe	Ala	Gln	Leu	Tyr	Arg	Ser	Leu	Met	Tyr	Ser	Ala
			100					105					110		
Gln	Lys	Thr	Met	Asp	Leu	Pro	Phe	Leu	Glu	Thr	Asn	Ala	Leu	Arg	Thr
		115					120					125			
Gly	Glu	Arg	Pro	Glu	His	Cys	Gln	Val	Ser	Leu	Ser	Glu	Phe	Gln	Gln
	130					135					140				
Phe	Leu	Leu	Glu	Tyr	Gln	Gly	Glu	Leu	Trp	Ala	Val	Asp	Arg	Leu	Gln
145					150					155					160
Val	Gln	Glu	Phe	Met	Leu	Ser	Phe	Leu	Arg	Asp	Pro	Leu	Arg	Glu	Ile
				165					170					175	
Glu	Glu	Pro	Tyr	Phe	Phe	Leu	Asp	Glu	Leu	Val	Thr	Phe	Leu	Phe	Ser
			180					185					190		
Lys	Glu	Asn	Ser	Val	Trp	Asn	Ser	Gln	Leu	Asp	Ala	Val	Cys	Pro	Asp
		195					200					205			
Thr	Met	Asn	Asn	Pro	Leu	Ser	His	Tyr	Trp	Ile	Ser	Ser	Ser	His	Asn
	210					215					220				
Thr	Tyr	Leu	Thr	Gly	Asp	Gln	Phe	Ser	Ser	Glu	Ser	Ser	Leu	Glu	Ala
225				230						235				240	
Tyr	Ala	Arg	Cys	Leu	Arg	Met	Gly	Cys	Arg	Cys	Ile	Glu	Leu	Asp	Cys
			245						250					255	
Trp	Asp	Gly	Pro	Asp	Gly	Met	Pro	Val	Ile	Tyr	His	Gly	His	Thr	Leu
			260					265					270		
Thr	Thr	Lys	Ile	Lys	Phe	Ser	Asp	Val	Leu	His	Thr	Ile	Lys	Glu	His
		275					280					285			
Ala	Phe	Val	Ala	Ser	Glu	Tyr	Pro	Val	Ile	Leu	Ser	Ile	Glu	Asp	His
	290					295					300				
Cys	Ser	Ile	Ala	Gln	Gln	Arg	Asn	Met	Ala	Gln	His	Phe	Arg	Lys	Val
305				310						315				320	
Leu	Gly	Asp	Thr	Leu	Leu	Thr	Lys	Pro	Val	Asp	Ile	Ala	Ala	Asp	Gly
			325						330					335	
Leu	Pro	Ser	Pro	Asn	Gln	Leu	Arg	Arg	Lys	Ile	Leu	Ile	Lys	His	Lys
			340					345					350		
Lys	Leu	Ala	Glu	Gly	Ser	Ala	Tyr	Glu	Glu	Val	Pro	Thr	Ser	Val	Met
		355					360					365			
Tyr	Ser	Glu	Asn	Asp	Ile	Ser	Asn	Ser	Ile	Lys	Asn	Gly	Ile	Leu	Tyr
	370					375					380				
Leu	Glu	Asp	Pro	Val	Asn	His	Glu	Trp	Tyr	Pro	His	Tyr	Phe	Val	Leu
385					390					395					

Arg	Ile	His	Ser	Arg	Gln	Asp	Ala	Gly	Thr	Pro	Lys	Phe	Phe	Leu	Thr
			500					505					510		
Asp	Asn	Leu	Val	Phe	Asp	Ser	Leu	Tyr	Asp	Leu	Ile	Thr	His	Tyr	Gln
		515					520					525			
Gln	Val	Pro	Leu	Arg	Cys	Asn	Glu	Phe	Glu	Met	Arg	Leu	Ser	Glu	Pro
	530					535					540				
Val	Pro	Gln	Thr	Asn	Ala	His	Glu	Ser	Lys	Glu	Trp	Tyr	His	Ala	Ser
545				550						555					560
Leu	Thr	Arg	Ala	Gln	Ala	Glu	His	Met	Leu	Met	Arg	Val	Pro	Arg	Asp
			565						570					575	
Gly	Ala	Phe	Leu	Val	Arg	Lys	Arg	Asn	Glu	Pro	Asn	Ser	Tyr	Ala	Ile
		580						585					590		
Ser	Phe	Arg	Ala	Glu	Gly	Lys	Ile	Lys	His	Cys	Arg	Val	Gln	Gln	Glu
		595					600					605			
Gly	Gln	Thr	Val	Met	Leu	Gly	Asn	Ser	Glu	Phe	Asp	Ser	Leu	Val	Asp
	610					615					620				
Leu	Ile	Ser	Tyr	Tyr	Glu	Lys	His	Pro	Leu	Tyr	Arg	Lys	Met	Lys	Leu
625					630					635					640
Arg	Tyr	Pro	Ile	Asn	Glu	Glu	Ala	Leu	Glu	Lys	Ile	Gly	Thr	Ala	Glu
				645						650				655	
Pro	Asp	Tyr	Gly	Ala	Leu	Tyr	Glu	Gly	Arg	Asn	Pro	Gly	Phe	Tyr	Val
			660					665					670		
Glu	Ala	Asn	Pro	Met	Pro	Thr	Phe	Lys	Cys	Ala	Val	Lys	Ala	Leu	Phe
		675					680					685			
Asp	Tyr	Lys	Ala	Gln	Arg	Glu	Asp	Glu	Leu	Thr	Phe	Thr	Lys	Ser	Ala
	690					695					700				
Ile	Ile	Gln	Asn	Val	Glu	Lys	Gln	Asp	Gly	Gly	Trp	Trp	Arg	Gly	Asp
705					710					715					720
Tyr	Gly	Gly	Lys	Lys	Gln	Leu	Trp	Phe	Pro	Ser	Asn	Tyr	Val	Glu	Glu
				725					730					735	
Met	Ile	Asn	Pro	Ala	Val	Leu	Glu	Pro	Glu	Arg	Glu	His	Leu	Asp	Glu
			740					745					750		
Asn	Ser	Pro	Leu	Gly	Asp	Leu	Leu	Arg	Gly	Val	Leu	Asp	Val	Pro	Ala
		755					760					765			
Cys	Gln	Ile	Ala	Ile	Arg	Pro	Glu	Gly	Lys	Asn	Asn	Arg	Leu	Phe	Val
	770					775					780				
Phe	Ser	Ile	Ser	Met	Pro	Ser	Val	Ala	Gln	Trp	Ser	Leu	Asp	Val	Ala
785					790					795					800
Ala	Asp	Ser	Gln	Glu	Glu	Leu	Gln	Asp	Trp	Val	Lys	Lys	Ile	Arg	Glu
				805					810					815	
Val	Ala	Gln	Thr	Ala	Asp	Ala	Arg	Leu	Thr	Glu	Gly	Lys	Met	Met	Glu
			820					825					830		
Arg	Arg	Lys	Lys	Ile	Ala	Leu	Glu	Leu	Ser	Glu	Leu	Val	Val	Tyr	Cys
		835					840						845		
Arg	Pro	Val													

945					950					955					960
Ala	Phe	Asp	Pro	Phe	Asp	Lys	Ser	Ser	Leu	Arg	Gly	Leu	Glu	Pro	Cys
				965					970					975	
Val	Ile	Cys	Ile	Glu	Val	Leu	Gly	Ala	Arg	His	Leu	Pro	Lys	Asn	Gly
			980					985					990		
Arg	Gly	Ile	Val	Cys	Pro	Phe	Val	Glu	Ile	Glu	Val	Ala	Gly	Ala	Glu
		995					1000					1005			
Tyr	Asp	Ser	Thr	Lys	Gln	Lys	Thr	Glu	Phe	Val	Val	Asp	Asn	Gly	Leu
	1010					1015					1020				
Asn	Pro	Val	Trp	Pro	Ala	Lys	Pro	Phe	His	Phe	Gln	Ile	Ser	Asn	Pro
1025					1030					1035					1040
Glu	Phe	Ala	Phe	Leu	Arg	Phe	Val	Val	Tyr	Glu	Glu	Asp	Met	Phe	Ser
			1045						1050					1055	
Asp	Gln	Asn	Phe	Leu	Ala	Gln	Ala	Thr	Phe	Pro	Val	Lys	Gly	Leu	Lys
			1060					1065					1070		
Thr	Gly	Tyr	Arg	Ala	Val	Pro	Leu	Lys	Asn	Asn	Tyr	Ser	Glu	Asp	Leu
		1075					1080					1085			
Glu	Leu	Ala	Ser	Leu	Leu	Ile	Lys	Ile	Asp	Ile	Phe	Pro	Ala	Lys	Glu
	1090					1095					1100				
Asn	Gly	Asp	Leu	Ser	Pro	Phe	Ser	Gly	Ile	Ser	Leu	Arg	Glu	Arg	Ala
1105					1110					1115					1120
Ser	Asp	Ala	Ser	Ser	Gln	Leu	Phe	His	Val	Arg	Ala	Arg	Glu	Gly	Ser
			1125						1130					1135	
Phe	Glu	Ala	Arg	Tyr	Gln	Gln	Pro	Phe	Glu	Asp	Phe	Arg	Ile	Ser	Gln
		1140						1145				1150			
Glu	His	Leu	Ala	Asp	His	Phe	Asp	Ser	Arg	Glu	Arg	Arg	Ala	Pro	Arg
	1155						1160					1165			
Arg	Thr	Arg	Val	Asn	Gly	Asp	Asn	Arg	Leu						
	1170					1175									

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<210> 15
<211> 706
<212> PRT
<213> Homo sapiens
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<400> 15															
Met	Ser	Pro	Phe	Leu	Arg	Ile	Gly	Leu	Ser	Asn	Phe	Asp	Cys	Gly	Ser
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Cys	Gln	Ser	Cys	Gln	Gly	Glu	Ala	Val	Asn	Pro	Tyr	Cys	Ala	Val	Leu
			20					25					30		
Val	Lys	Glu	Tyr	Val	Glu	Ser	Glu	Asn	Gly	Gln	Met	Tyr	Ile	Gln	Lys
		35					40					45			
Lys	Pro	Thr	Met	Tyr	Pro	Pro	Trp	Asp	Ser	Thr	Phe	Asp	Ala	His	Ile
	50					55					60				
Asn	Lys	Gly	Arg	Val	Met	Gln	Ile	Ile	Val	Lys	Gly	Lys	Asn	Val	Asp
65					70					75				80	
Leu	Ile	Ser	Glu	Thr	Thr	Val	Glu	Leu	Tyr	Ser	Leu	Ala	Glu	Arg	Cys
				85				90					95		
Arg	Lys	Asn	Asn	Gly	Lys	Thr	Glu	Ile	Trp	Leu	Glu	Leu	Lys	Pro	Gln
			100					105					110		
Gly	Arg	Met	Leu	Met	Asn	Ala	Arg	Tyr	Phe	Leu	Glu	Met	Ser	Asp	Thr
		115					120					125			
Lys	Asp	Met	Asn	Glu	Phe	Glu	Thr	Glu	Gly	Phe	Phe	Ala	Leu	His	Gln
	130					135					140				
Arg	Arg	Gly	Ala	Ile	Lys	Gln	Ala	Lys	Val	His	His	Val	Lys	Cys	His
145					150					155				160	
Glu	Phe	Thr	Ala	Thr	Phe	Phe	Pro	Gln	Pro	Thr	Phe	Cys	Ser	Val	Cys

			165					170					175				
His	Glu	Phe	Val	Trp	Gly	Leu	Asn	Lys	Gln	Gly	Tyr	Gln	Cys	Arg	Gln		
			180						185						190		
Cys	Asn	Ala	Ala	Ile	His	Lys	Lys	Cys	Ile	Asp	Lys	Val	Ile	Ala	Lys		
			195						200						205		
Cys	Thr	Gly	Ser	Ala	Ile	Asn	Ser	Arg	Glu	Thr	Met	Phe	His	Lys	Glu		
			210						215						220		
Arg	Phe	Lys	Ile	Asp	Met	Pro	His	Arg	Phe	Lys	Val	Tyr	Asn	Tyr	Lys		
225																240	
Ser	Pro	Thr	Phe	Cys	Glu	His	Cys	Gly	Thr	Leu	Leu	Trp	Gly	Leu	Ala		
															255		
Arg	Gln	Gly	Leu	Lys	Cys	Asp	Ala	Cys	Gly	Met	Asn	Val	His	His	Arg		
															270		
Cys	Gln	Thr	Lys	Val	Ala	Asn	Leu	Cys	Gly	Ile	Asn	Gln	Lys	Leu	Met		
															285		
Ala	Glu	Ala	Leu	Ala	Met	Ile	Glu	Ser	Thr	Gln	Gln	Ala	Arg	Cys	Leu		
															300		
Arg	Asp	Thr	Glu	Gln	Ile	Phe	Arg	Glu	Gly	Pro	Val	Glu	Ile	Gly	Leu		
305																320	
Pro	Cys	Ser	Ile	Lys	Asn	Glu	Ala	Arg	Pro	Pro	Cys	Leu	Pro	Thr	Pro		
															335		
Gly	Lys	Arg	Glu	Pro	Gln	Gly	Ile	Ser	Trp	Glu	Ser	Pro	Leu	Asp	Glu		
															350		
Val	Asp	Lys	Met	Cys	His	Leu	Pro	Glu	Pro	Glu	Leu	Asn	Lys	Glu	Arg		
															365		
Pro	Ser	Leu	Gln	Ile	Lys	Leu	Lys	Ile	Glu	Asp	Phe	Ile	Leu	His	Lys		
															380		
Met	Leu	Gly	Lys	Gly	Ser	Phe	Gly	Lys	Val	Phe	Leu	Ala	Glu	Phe	Lys		
385																400	
Lys	Thr	Asn	Gln	Phe	Phe	Ala	Ile	Lys	Ala	Leu	Lys	Lys	Asp	Val	Val		
															415		
Leu	Met	Asp	Asp	Asp	Val	Glu	Cys	Thr	Met	Val	Glu	Lys	Arg	Val	Leu		
															430		
Ser	Leu	Ala	Trp	Glu	His	Pro	Phe	Leu	Thr	His	Met	Phe	Cys	Thr	Phe		
															445		
Gln	Thr	Lys	Glu	Asn	Leu	Phe	Phe	Val	Met	Glu	Tyr	Leu	Asn	Gly	Gly		
															460		
Asp	Leu	Met	Tyr	His	Ile	Gln	Ser	Cys	His	Lys	Phe	Asp	Leu	Ser	Arg		
465																480	
Ala	Thr	Phe	Tyr	Ala	Ala	Glu	Ile	Ile	Leu	Gly	Leu	Gln	Phe	Leu	His		
															495		
Ser	Lys	Gly	Ile	Val	Tyr	Arg	Asp	Leu	Lys	Leu	Asp	Asn	Ile	Leu	Leu		
															510		
Asp	Lys	Asp	Gly	His	Ile	Lys	Ile	Ala	Asp	Phe	Gly	Met	Cys	Lys	Glu		
															525		
Asn	Met	Leu	Gly	Asp	Ala	Lys	Thr	Asn	Thr	Phe	Cys	Gly	Thr	Pro	Asp		
															540		
Tyr	Ile	Ala	Pro	Glu	Ile	Leu	Leu	Gly	Gln	Lys	Tyr	Asn	His	Ser	Val		
545																560	
Asp	Trp	Trp	Ser	Phe	Gly	Val	Leu	Leu	Tyr	Glu	Met	Leu	Ile	Gly	Gln		
															575		
Ser	Pro	Phe	His	Gly	Gln	Asp	Glu	Glu	Glu	Leu	Phe	His	Ser	Ile	Arg		
															590		
Met	Asp	Asn	Pro	Phe	Tyr	Pro	Arg	Trp	Leu	Glu	Lys	Glu	Ala	Lys	Asp		
															605		
Leu	Leu	Val	Lys	Leu	Phe	Val	Arg	Glu	Pro	Glu							

Arg Gly Asp Ile Arg Gln His Pro Leu Phe Arg Glu Ile Asn Trp Glu
 625 630 635 640
 Glu Leu Glu Arg Lys Glu Ile Asp Pro Pro Phe Arg Pro Lys Val Lys
 645 650 655
 Ser Pro Phe Asp Cys Ser Asn Phe Asp Lys Glu Phe Leu Asn Glu Lys
 660 665 670
 Pro Arg Leu Ser Phe Ala Asp Arg Ala Leu Ile Asn Ser Met Asp Gln
 675 680 685
 Asn Met Phe Arg Asn Phe Ser Phe Met Asn Pro Gly Met Glu Arg Leu
 690 695 700
 Ile Ser
 705

<210> 16

<211> 707

<212> PRT

<213> Mus musculus

<400> 16

Met Ser Pro Phe Leu Arg Ile Gly Leu Ser Asn Phe Asp Cys Gly Thr
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 Cys Gln Ala Cys Gln Gly Glu Ala Val Asn Pro Tyr Cys Ala Val Leu
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 Val Lys Glu Tyr Val Glu Ser Glu Asn Gly Gln Met Tyr Ile Gln Lys
 35 40 45
 Lys Pro Thr Met Tyr Pro Pro Trp Asp Ser Thr Phe Asp Ala His Ile
 50 55 60
 Asn Lys Gly Arg Val Met Gln Ile Ile Val Lys Gly Lys Asn Val Asp
 65 70 75 80
 Leu Ile Ser Glu Thr Thr Val Glu Leu Tyr Ser Leu Ala Glu Arg Cys
 85 90 95
 Arg Lys Asn Asn Gly Arg Thr Glu Ile Trp Leu Glu Leu Lys Pro Gln
 100 105 110
 Gly Arg Met Leu Met Asn Ala Arg Tyr Phe Leu Glu Met Ser Asp Thr
 115 120 125
 Lys Asp Met Ser Glu Phe Glu Asn Glu Gly Phe Phe Ala Leu His Gln
 130 135 140
 Arg Arg Gly Ala Ile Lys Gln Ala Lys Val His His Val Lys Cys His
 145 150 155 160
 Glu Phe Thr Ala Thr Phe Phe Pro Gln Pro Thr Phe Cys Ser Val Cys
 165 170 175
 His Glu Phe Val Trp Gly Leu Asn Lys Gln Gly Tyr Gln Cys Arg Gln
 180 185 190
 Cys Asn Ala Ala Ile His Lys Lys Cys Ile Asp Lys Val Ile Ala Lys
 195 200 205
 Cys Thr Gly Ser Ala Ile Asn Ser Arg Glu Thr Met Phe His Lys Glu
 210 215 220
 Arg Phe Lys Ile Asp Met Pro His Arg Phe Lys Val Tyr Asn Tyr Lys
 225 230 235 240
 Ser Pro Thr Phe Cys Glu His Cys Gly Thr Leu Leu Trp Gly Leu Ala
 245 250 255
 Arg Gln Gly Leu Lys Cys Asp Ala Cys Gly Met Asn Val His His Arg
 260 265 270
 Cys Gln Thr Lys Val Ala Asn Leu Cys Gly Ile Asn Gln Lys Leu Met
 275 280 285
 Ala Glu Ala Leu Ala Met Ile Glu Ser Thr Gln Gln Ala Arg Ser Leu
 290 295 300

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Arg Asp Ser Glu His Ile Phe Arg Glu Gly Pro Val Glu Ile Gly Leu
305                               310               315               320
Pro Cys Ser Thr Lys Asn Glu Thr Arg Pro Pro Cys Val Pro Thr Pro
                               325               330               335
Gly Lys Arg Glu Pro Gln Gly Ile Ser Trp Asp Ser Pro Leu Asp Gly
                               340               345               350
Ser Asn Lys Ser Ala Gly Pro Pro Glu Pro Glu Val Ser Met Arg Arg
                               355               360               365
Thr Ser Leu Gln Leu Lys Leu Lys Ile Asp Asp Phe Ile Leu His Lys
                               370               375               380
Met Leu Gly Lys Gly Ser Phe Gly Lys Val Phe Leu Ala Glu Phe Lys
385                               390               395               400
Arg Thr Asn Gln Phe Phe Ala Ile Lys Ala Leu Lys Lys Asp Val Val
                               405               410               415
Leu Met Asp Asp Asp Val Glu Cys Thr Met Val Glu Lys Arg Val Leu
                               420               425               430
Ser Leu Ala Trp Glu His Pro Phe Leu Thr His Met Phe Cys Thr Phe
                               435               440               445
Gln Thr Lys Glu Asn Leu Phe Phe Val Met Glu Tyr Leu Asn Gly Gly
                               450               455               460
Asp Leu Met Tyr His Ile Gln Ser Cys His Lys Phe Asp Leu Ser Arg
465                               470               475               480
Ala Thr Phe Tyr Ala Ala Glu Val Ile Leu Gly Leu Gln Phe Leu His
                               485               490               495
Ser Lys Gly Ile Val Tyr Arg Asp Leu Lys Leu Asp Asn Ile Leu Leu
                               500               505               510
Asp Arg Asp Gly His Ile Lys Ile Ala Asp Phe Gly Met Cys Lys Glu
                               515               520               525
Asn Met Leu Gly Asp Ala Lys Thr Asn Thr Phe Cys Gly Thr Pro Asp
                               530               535               540
Tyr Ile Ala Pro Glu Ile Leu Leu Gly Gln Lys Tyr Asn His Ser Val
545                               550               555               560
Asp Trp Trp Ser Phe Gly Val Leu Val Tyr Glu Met Leu Ile Gly Gln
                               565               570               575
Ser Pro Phe His Gly Gln Asp Glu Glu Glu Leu Phe His Ser Ile Arg
                               580               585               590
Met Asp Asn Pro Phe Tyr Pro Arg Trp Leu Glu Arg Glu Ala Lys Asp
                               595               600               605
Leu Leu Val Lys Leu Phe Val Arg Glu Pro Glu Lys Arg Leu Gly Val
                               610               615               620
Arg Gly Asp Ile Arg Gln His Pro Leu Phe Arg Glu Ile Asn Trp Glu
625                               630               635               640
Glu Leu Glu Arg Lys Glu Ile Asp Pro Pro Phe Arg Pro Lys Val Lys
                               645               650               655
Ser Pro Tyr Asp Cys Ser Asn Phe Asp Lys Glu Phe Leu Ser Glu Lys
                               660               665               670
Pro Arg Leu Ser Phe Ala Asp Arg Ala Leu Ile Asn Ser Met Asp Gln
                               675               680               685
Asn Met Phe Ser Asn Phe Ser Phe Ile Asn Pro Gly Met Glu Thr Leu
690                               695               700
Ile Cys Ser
705

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<210> 17

<211> 1047

<212> PRT

<213> Homo sapiens

<400> 17

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Gly	Ala	Gly	Gly	Gly	Gly	Ala	Ala	Ala	Gly	Ser	Ser	Ala	Tyr	Pro	Ala
			20					25					30		
Val	Cys	Arg	Val	Lys	Ile	Pro	Ala	Ala	Leu	Pro	Val	Ala	Ala	Ala	Pro
			35				40					45			
Tyr	Pro	Gly	Leu	Val	Glu	Thr	Gly	Val	Ala	Gly	Thr	Leu	Gly	Gly	Gly
	50					55					60				
Ala	Ala	Leu	Gly	Ser	Glu	Phe	Leu	Gly	Ala	Gly	Ser	Val	Ala	Gly	Ala
65					70					75					80
Leu	Gly	Gly	Ala	Gly	Leu	Thr	Gly	Gly	Gly	Thr	Ala	Ala	Gly	Val	Ala
				85					90					95	
Gly	Ala	Ala	Ala	Gly	Val	Ala	Gly	Ala	Ala	Val	Ala	Gly	Pro	Ser	Gly
			100					105					110		
Asp	Met	Ala	Leu	Thr	Lys	Leu	Pro	Thr	Ser	Leu	Leu	Ala	Glu	Thr	Leu
			115				120					125			
Gly	Pro	Gly	Gly	Gly	Phe	Pro	Pro	Leu	Pro	Pro	Pro	Pro	Tyr	Leu	Pro
	130					135						140			
Pro	Leu	Gly	Ala	Gly	Leu	Gly	Thr	Val	Asp	Glu	Gly	Asp	Ser	Leu	Asp
145					150					155					160
Gly	Pro	Glu	Tyr	Glu	Glu	Glu	Val	Ala	Ile	Pro	Leu	Thr	Ala	Pro	
				165				170						175	
Pro	Thr	Asn	Gln	Trp	Tyr	His	Gly	Lys	Leu	Asp	Arg	Thr	Ile	Ala	Glu
			180					185					190		
Glu	Arg	Leu	Arg	Gln	Ala	Gly	Lys	Ser	Gly	Ser	Tyr	Leu	Ile	Arg	Glu
			195				200					205			
Ser	Asp	Arg	Arg	Pro	Gly	Ser	Phe	Val	Leu	Ser	Phe	Leu	Ser	Gln	Met
	210					215					220				
Asn	Val	Val	Asn	His	Phe	Arg	Ile	Ile	Ala	Met	Cys	Gly	Asp	Tyr	Tyr
225					230					235					240
Ile	Gly	Gly	Arg	Arg	Phe	Ser	Ser	Leu	Ser	Asp	Leu	Ile	Gly	Tyr	Tyr
				245				250						255	
Ser	His	Val	Ser	Cys	Leu	Leu	Lys	Gly	Glu	Lys	Leu	Leu	Tyr	Pro	Val
			260					265					270		
Ala	Pro	Pro	Glu	Pro	Val	Glu	Asp	Arg	Arg	Arg	Val	Arg	Ala	Ile	Leu
		275					280					285			
Pro	Tyr	Thr	Lys	Val	Pro	Asp	Thr	Asp	Glu	Ile	Ser	Phe	Leu	Lys	Gly
	290					295					300				
Asp	Met	Phe	Ile	Val	His	Asn	Glu	Leu	Glu	Asp	Gly	Trp	Met	Trp	Val
305					310					315					320
Thr	Asn	Leu	Arg	Thr	Asp	Glu	Gln	Gly	Leu	Ile	Val	Glu	Asp	Leu	Val
				325				330						335	
Glu	Glu	Val	Gly	Arg	Glu	Glu	Asp	Pro	His	Glu	Gly	Lys	Ile	Trp	Phe
			340					345					350		
His	Gly	Lys	Ile	Ser	Lys	Gln	Glu	Ala	Tyr	Asn	Leu	Leu	Met	Thr	Val
		355					360					365			
Gly	Gln	Val	Cys	Ser	Phe	Leu	Val	Arg	Pro	Ser	Asp	Asn	Thr	Pro	Gly
	370					375					380				
Asp	Tyr	Ser	Leu	Tyr	Phe	Arg	Thr	Asn	Glu	Asn	Ile	Gln	Arg	Phe	Lys
385					390				395						400
Ile	Cys	Pro	Thr	Pro	Asn	Asn	Gln	Phe	Met	Met	Gly	Gly	Arg	Tyr	Tyr
				405				410					415		
Asn	Ser	Ile	Gly	Asp	Ile	Ile	Asp	His	Tyr	Arg	Lys	Glu	Gln	Ile	Val
			420					425					430		
Glu	Gly	Tyr	Tyr	Leu	Lys	Glu	Pro	Val	Pro	Met	Gln	Asp	Gln	Glu	Gln

435	440	445
Val Leu Asn Asp Thr	Val Asp Gly Lys Glu Ile Tyr Asn Thr Ile Arg	
450	455	460
Arg Lys Thr Lys Asp Ala Phe Tyr Lys Asn Ile Val Lys Lys Gly Tyr		
465	470	475
Leu Leu Lys Lys Gly Lys Gly Lys Arg Trp Lys Asn Leu Tyr Phe Ile		480
485	490	495
Leu Glu Gly Ser Asp Ala Gln Leu Ile Tyr Phe Glu Ser Glu Lys Arg		
500	505	510
Ala Thr Lys Pro Lys Gly Leu Ile Asp Leu Ser Val Cys Ser Val Tyr		
515	520	525
Val Val His Asp Ser Leu Phe Gly Arg Pro Asn Cys Phe Gln Ile Val		
530	535	540
Val Gln His Phe Ser Glu Glu His Tyr Ile Phe Tyr Phe Ala Gly Glu		
545	550	555
Thr Pro Glu Gln Ala Glu Asp Trp Met Lys Gly Leu Gln Ala Phe Cys		560
565	570	575
Asn Leu Arg Lys Ser Ser Pro Gly Thr Ser Asn Lys Arg Leu Arg Gln		
580	585	590
Val Ser Ser Leu Val Leu His Ile Glu Glu Ala His Lys Leu Pro Val		
595	600	605
Lys His Phe Thr Asn Pro Tyr Cys Asn Ile Tyr Leu Asn Ser Val Gln		
610	615	620
Val Ala Lys Thr His Ala Arg Glu Gly Gln Asn Pro Val Trp Ser Glu		
625	630	635
Glu Phe Val Phe Asp Leu Pro Pro Asp Ile Asn Arg Phe Glu Ile		640
645	650	655
Thr Leu Ser Asn Lys Thr Lys Lys Ser Lys Asp Pro Asp Ile Leu Phe		
660	665	670
Met Arg Cys Gln Leu Ser Arg Leu Gln Lys Gly His Ala Thr Asp Glu		
675	680	685
Trp Phe Leu Leu Ser Ser His Ile Pro Leu Lys Gly Ile Glu Pro Gly		
690	695	700
Ser Leu Arg Val Arg Ala Arg Tyr Ser Met Glu Lys Ile Met Pro Glu		
705	710	715
Glu Glu Tyr Ser Glu Phe Lys Glu Leu Ile Leu Gln Lys Glu Leu His		
725	730	735
Val Val Tyr Ala Leu Ser His Val Cys Gly Gln Asp Arg Thr Leu Leu		
740	745	750
Ala Ser Ile Leu Leu Arg Ile Phe Leu His Glu Lys Leu Glu Ser Leu		
755	760	765
Leu Leu Cys Thr Leu Asn Asp Arg Glu Ile Ser Met Glu Asp Glu Ala		
770	775	780
Thr Thr Leu Phe Arg Ala Thr Thr Leu Ala Ser Thr Leu Met Glu Gln		
785	790	795
Tyr Met Lys Ala Thr Ala Thr Gln Phe Val His His Ala Leu Lys Asp		
805	810	815
Ser Ile Leu Lys Ile Met Glu Ser Lys Gln Ser Cys Glu Leu Ser Pro		
820	825	830
Ser Lys Leu Glu Lys Asn Glu Asp Val Asn Thr Asn Leu Thr His Leu		
835	840	845
Leu Asn Ile Leu Ser Glu Leu Val Glu Lys Ile Phe Met Ala Ser Glu		
850	855	860
Ile Leu Pro Pro Thr Leu Arg Tyr Ile Tyr Gly Cys Leu Gln Lys Ser		
865	870	875
Val Gln His Lys Trp Pro Thr Asn Thr Thr Met Arg Thr Arg Val Val		
885	890	895

Ser Gly Phe Val Phe Leu Arg Leu Ile Cys Pro Ala Ile Leu Asn Pro
 900 905 910
 Arg Met Phe Asn Ile Ile Ser Asp Ser Pro Ser Pro Ile Ala Ala Arg
 915 920 925
 Thr Leu Ile Leu Val Ala Lys Ser Val Gln Asn Leu Ala Asn Leu Val
 930 935 940
 Glu Phe Gly Ala Lys Glu Pro Tyr Met Glu Gly Val Asn Pro Phe Ile
 945 950 955 960
 Lys Ser Asn Lys His Arg Met Ile Met Phe Leu Asp Glu Leu Gly Asn
 965 970 975
 Val Pro Glu Leu Pro Asp Thr Thr Glu His Ser Arg Thr Asp Leu Ser
 980 985 990
 Arg Asp Leu Ala Ala Leu His Glu Ile Cys Val Ala His Ser Asp Glu
 995 1000 1005
 Leu Arg Thr Leu Ser Asn Glu Arg Gly Ala Gln Gln His Val Leu Lys
 1010 1015 1020
 Lys Leu Leu Ala Ile Thr Glu Leu Leu Gln Gln Lys Gln Asn Gln Tyr
 1025 1030 1035 1040
 Thr Lys Thr Asn Asp Val Arg
 1045

<210> 18
 <211> 813
 <212> PRT
 <213> Mus musculus

<400> 18
 Met Cys Gly Asp Tyr Tyr Ile Gly Gly Arg Arg Phe Ser Ser Leu Ser
 1 5 10 15
 Asp Leu Ile Gly Tyr Tyr Ser His Val Ser Cys Leu Leu Lys Gly Glu
 20 25 30
 Lys Leu Leu Tyr Pro Val Ala Pro Pro Glu Pro Val Glu Asp Arg Arg
 35 40 45
 Arg Val Arg Ala Ile Leu Pro Tyr Thr Lys Val Pro Asp Thr Asp Glu
 50 55 60
 Ile Ser Phe Leu Lys Gly Asp Met Phe Ile Val His Asn Glu Leu Glu
 65 70 75 80
 Asp Gly Trp Met Trp Val Thr Asn Leu Arg Thr Asp Glu Gln Gly Leu
 85 90 95
 Ile Val Glu Asp Leu Val Glu Glu Val Gly Arg Glu Glu Asp Pro His
 100 105 110
 Glu Gly Lys Ile Trp Phe His Gly Lys Ile Ser Lys Gln Glu Ala Tyr
 115 120 125
 Asn Leu Leu Met Thr Val Gly Gln Val Cys Ser Phe Leu Val Arg Pro
 130 135 140
 Ser Asp Asn Thr Pro Gly Asp Tyr Ser Leu Tyr Phe Arg Thr Asn Glu
 145 150 155 160
 Asn Ile Gln Arg Phe Lys Ile Cys Pro Thr Pro Asn Asn Gln Phe Met
 165 170 175
 Met Gly Gly Arg Tyr Tyr Asn Ser Ile Gly Asp Ile Ile Asp His Tyr
 180 185 190
 Arg Lys Glu Gln Ile Val Glu Gly Tyr Tyr Leu Lys Glu Pro Val Pro
 195 200 205
 Met Gln Asp Gln Gly Gln Val Leu Asn Asp Thr Val Asp Gly Lys Glu
 210 215 220
 Ile Tyr Asn Thr Ile Arg Arg Lys Thr Lys Asp Ala Phe Tyr Lys Asn
 225 230 235 240

Ile Val Lys Lys Gly Tyr Leu Leu Lys Lys Gly Lys Gly Lys Arg Trp
 245 250 255
 Lys Asn Leu Tyr Phe Ile Leu Glu Gly Ser Asp Ala Gln Leu Ile Tyr
 260 265 270
 Phe Glu Ser Glu Lys Arg Ala Thr Lys Pro Lys Gly Leu Ile Asp Leu
 275 280 285
 Ser Val Cys Ser Val Tyr Val Val His Asp Ser Leu Phe Gly Arg Pro
 290 295 300
 Asn Cys Phe Gln Ile Val Val Gln His Phe Ser Glu Glu His Tyr Ile
 305 310 315 320
 Phe Tyr Phe Ala Gly Glu Thr Pro Glu Gln Ala Glu Asp Trp Met Lys
 325 330 335
 Gly Leu Gln Ala Phe Cys Ser Leu Arg Lys Ser Ser Pro Gly Thr Ser
 340 345 350
 Asn Lys Arg Leu Arg Gln Val Ser Ser Leu Val Leu His Ile Glu Glu
 355 360 365
 Ala His Lys Leu Pro Val Lys His Phe Thr Asn Pro Tyr Cys Asn Ile
 370 375 380
 Tyr Leu Asn Ser Val Gln Val Ala Lys Thr His Ala Arg Glu Gly Gln
 385 390 395 400
 Asn Pro Val Trp Ser Glu Glu Phe Val Phe Asp Asp Leu Pro Pro Asp
 405 410 415
 Ile Asn Arg Phe Glu Ile Thr Leu Ser Asn Lys Thr Lys Lys Ser Lys
 420 425 430
 Asp Pro Asp Ile Leu Phe Met Arg Cys Gln Leu Ser Arg Leu Gln Lys
 435 440 445
 Gly His Ala Thr Asp Glu Trp Phe Leu Leu Ser Ser His Ile Pro Leu
 450 455 460
 Lys Gly Ile Glu Pro Gly Ser Leu Arg Val Arg Ala Arg Tyr Ser Met
 465 470 475 480
 Glu Lys Ile Met Pro Glu Glu Glu Tyr Ser Glu Phe Lys Glu Leu Ile
 485 490 495
 Leu Gln Lys Glu Leu His Val Val Tyr Ala Leu Ser His Val Cys Gly
 500 505 510
 Gln Asp Arg Thr Leu Leu Ala Ser Ile Leu Leu Lys Ile Phe Leu His
 515 520 525
 Glu Lys Leu Glu Ser Leu Leu Leu Cys Thr Leu Asn Asp Arg Glu Ile
 530 535 540
 Ser Met Glu Asp Glu Ala Thr Thr Leu Phe Arg Ala Thr Thr Leu Ala
 545 550 555 560
 Ser Thr Leu Met Glu Gln Tyr Met Lys Ala Thr Ala Thr Gln Phe Val
 565 570 575
 His His Ala Leu Lys Asp Ser Ile Leu Lys Ile Met Glu Ser Lys Gln
 580 585 590
 Ser Cys Glu Leu Ser Pro Ser Lys Leu Glu Lys Asn Glu Asp Val Asn
 595 600 605
 Thr Asn Leu Ala His Leu Leu Ser Ile Leu Ser Glu Leu Val Glu Lys
 610 615 620
 Ile Phe Met Ala Ser Glu Ile Leu Pro Pro Thr Leu Arg Tyr Ile Tyr
 625 630 635 640
 Gly Cys Leu Gln Lys Ser Val Gln His Lys Trp Pro Thr Asn Asn Thr
 645 650 655
 Met Arg Thr Arg Val Val Ser Gly Phe Val Phe Leu Arg Leu Ile Cys
 660 665 670
 Pro Ala Ile Leu Asn Pro Arg Met Phe Asn Ile Ile Ser Asp Ser Pro
 675 680 685
 Ser Pro Ile Ala Ala Arg Thr Leu Thr Leu Val Ala Lys Ser Val Gln

690		695		700
Asn Leu Ala Asn Leu Val Glu Phe Gly Ala Lys Glu Pro Tyr Met Glu				
705		710		715
Gly Val Asn Pro Phe Ile Lys Ser Asn Lys His Arg Met Ile Met Phe				
	725		730	735
Leu Asp Glu Leu Gly Asn Val Pro Glu Leu Pro Asp Thr Thr Glu His				
	740		745	750
Ser Arg Thr Asp Leu Ser Arg Asp Leu Ala Ala Leu His Glu Ile Cys				
	755		760	765
Val Ala His Ser Asp Glu Leu Arg Thr Leu Ser Asn Glu Arg Gly Val				
	770		775	780
Gln Gln His Val Leu Lys Lys Leu Leu Ala Ile Thr Glu Leu Leu Gln				
785		790		795
Gln Lys Gln Asn Gln Tyr Thr Lys Thr Asn Asp Ile Arg				800
	805		810	

<210> 19

<211> 390

<212> PRT

<213> Homo sapiens

<400> 19

Met Ala Val Ser Glu Ser Gln Leu Lys Lys Met Val Ser Lys Tyr Lys				
1	5		10	15
Tyr Arg Asp Leu Thr Val Arg Glu Thr Val Asn Val Ile Thr Leu Tyr				
	20		25	30
Lys Asp Leu Lys Pro Val Leu Asp Ser Tyr Val Phe Asn Asp Gly Ser				
	35		40	45
Ser Arg Glu Leu Met Asn Leu Thr Gly Thr Ile Pro Val Pro Tyr Arg				
	50		55	60
Gly Asn Thr Tyr Asn Ile Pro Ile Cys Leu Trp Leu Leu Asp Thr Tyr				
65		70		75
Pro Tyr Asn Pro Pro Ile Cys Phe Val Lys Pro Thr Ser Ser Met Thr				
	85		90	95
Ile Lys Thr Gly Lys His Val Asp Ala Asn Gly Lys Ile Tyr Leu Pro				
	100		105	110
Tyr Leu His Glu Trp Lys His Pro Gln Ser Asp Leu Leu Gly Leu Ile				
	115		120	125
Gln Val Met Ile Val Val Phe Gly Asp Glu Pro Pro Val Phe Ser Arg				
	130		135	140
Pro Ile Ser Ala Ser Tyr Pro Pro Tyr Gln Ala Thr Gly Pro Pro Asn				
145		150		155
Thr Ser Tyr Met Pro Gly Met Pro Gly Gly Ile Ser Pro Tyr Pro Ser				
	165		170	175
Gly Tyr Pro Pro Asn Pro Ser Gly Tyr Pro Gly Cys Pro Tyr Pro Pro				
	180		185	190
Gly Gly Pro Tyr Pro Ala Thr Thr Ser Ser Gln Tyr Pro Ser Gln Pro				
	195		200	205
Pro Val Thr Thr Val Gly Pro Ser Arg Asp Gly Thr Ile Ser Glu Asp				
	210		215	220
Thr Ile Arg Ala Ser Leu Ile Ser Ala Val Ser Asp Lys Leu Arg Trp				
225		230		235
Arg Met Lys Glu Glu Met Asp Arg Ala Gln Ala Glu Leu Asn Ala Leu				
	245		250	255
Lys Arg Thr Glu Glu Asp Leu Lys Lys Gly His Gln Lys Leu Glu Glu				
	260		265	270
Met Val Thr Arg Leu Asp Gln Glu Val Ala Glu Val Asp Lys Asn Ile				

275	280	285
Glu Leu Leu Lys Lys Lys Asp	Glu Glu Leu Ser Ser	Ala Leu Glu Lys
290	295	300
Met Glu Asn Gln Ser Glu Asn Asn Asp	Ile Asp Glu Val Ile Ile Pro	
305	310	315
Thr Ala Pro Leu Tyr Lys Gln Ile Leu Asn Leu Tyr	Ala Glu Glu Asn	320
	325	330
Ala Ile Glu Asp Thr Ile Phe Tyr Leu Gly Glu	Ala Leu Arg Arg Gly	335
	340	345
Val Ile Asp Leu Asp Val Phe Leu Lys His Val Arg	Leu Leu Ser Arg	350
	355	360
Lys Gln Phe Gln Leu Arg Ala Leu Met Gln Lys	Ala Arg Lys Thr Ala	365
	370	375
Gly Leu Ser Asp Leu Tyr		380
385	390	

<210> 20

<211> 391

<212> PRT

<213> Mus musculus

<400> 20

Met Ala Val Ser Glu Ser Gln Leu Lys Lys Met Met Ser Lys Tyr Lys	
1	5
Tyr Arg Asp Leu Thr Val Arg Gln Thr Val Asn Val Ile Ala Met Tyr	10
	20
Lys Asp Leu Lys Pro Val Leu Asp Ser Tyr Val Phe Asn Asp Gly Ser	25
	35
Ser Arg Glu Leu Val Asn Leu Thr Gly Thr Ile Pro Val Arg Tyr Arg	40
	50
Gly Asn Ile Tyr Asn Ile Pro Ile Cys Leu Trp Leu Leu Asp Thr Tyr	55
65	70
Pro Tyr Asn Pro Pro Ile Cys Phe Val Lys Pro Thr Ser Ser Met Thr	75
	85
Ile Lys Thr Gly Lys His Val Asp Ala Asn Gly Lys Ile Tyr Leu Pro	90
	100
Tyr Leu His Asp Trp Lys His Pro Arg Ser Glu Leu Leu Glu Leu Ile	105
	115
Gln Ile Met Ile Val Ile Phe Gly Glu Glu Pro Pro Val Phe Ser Arg	120
	130
Pro Thr Val Ser Ala Ser Tyr Pro Pro Tyr Thr Ala Thr Gly Pro Pro	135
145	150
Asn Thr Ser Tyr Met Pro Gly Met Pro Ser Gly Ile Ser Ala Tyr Pro	155
	165
Ser Gly Tyr Pro Pro Asn Pro Ser Gly Tyr Pro Gly Cys Pro Tyr Pro	170
	180
Pro Ala Gly Pro Tyr Pro Ala Thr Thr Ser Ser Gln Tyr Pro Ser Gln	185
	195
Pro Pro Val Thr Thr Val Gly Pro Ser Arg Asp Gly Thr Ile Ser Glu	200
	210
Asp Thr Ile Arg Ala Ser Leu Ile Ser Ala Val Ser Asp Lys Leu Arg	215
225	230
Trp Arg Met Lys Glu Glu Met Asp Gly Ala Gln Ala Glu Leu Asn Ala	235
	245
Leu Lys Arg Thr Glu Glu Asp Leu Lys Lys Gly His Gln Lys Leu Glu	250
	260
Glu Met Val Thr Arg Leu Asp Gln Glu Val Ala Glu Val Asp Lys Asn	265
	270

275		280		285
Ile Glu Leu Leu Lys Lys Lys Asp Glu Glu Leu Ser Ser Ala Leu Glu				
290		295		300
Lys Met Glu Asn Gln Ser Glu Asn Asn Asp Ile Asp Glu Val Ile Ile				
305		310		315
Pro Thr Ala Pro Leu Tyr Lys Gln Ile Leu Asn Leu Tyr Ala Glu Glu				
	325		330	335
Asn Ala Ile Glu Asp Thr Ile Phe Tyr Leu Gly Glu Ala Leu Arg Arg				
	340		345	350
Gly Val Ile Asp Leu Asp Val Phe Leu Lys His Val Arg Leu Leu Ser				
	355		360	365
Arg Lys Gln Phe Gln Leu Arg Ala Leu Met Gln Lys Ala Arg Lys Thr				
	370		375	380
Ala Gly Leu Ser Asp Leu Tyr				
385		390		

<210> 21
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 21
 caagagggag agcaagccta

20

<210> 22
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 22
 aagcctttga cccctttgat

20

<210> 23
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 23
 ggttcagtcc gttgtccact

20

<210> 24
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 24
 gtgtggagtc accagaccct 20

 <210> 25
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 25
 gcttctactt gcagcccatc 20

 <210> 26
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 26
 cttaaattggg aggcacagta gaat 24

 <210> 27
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 27
 cagtacactt tatgcttggg agaa 24

 <210> 28
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 28
 gtaaccgcga caccaatttc 20

 <210> 29
 <211> 20
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Primer

 <400> 29
 gtgagacatg gggatgacct 20

<210> 30
 <211> 20
 <212> DNA
 <213> Artificial Sequence

<220>
 <223> Primer

<400> 30
 cgtctcaggc cttcagtgag

20

<210> 31
 <211> 12
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Synthetically generated peptide

<400> 31
 Ala Pro Arg Arg Thr Arg Val Asn Gly Asp Asn Arg
 1 5 10